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# San Rafael Swell Travel Management Plan Environmental Assessment

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## ACRONYMS

Acronym	Full Terminology
2WD	Two-Wheel Drive
4WD	Four-Wheel Drive
ACEC	Area of Critical Environmental Concern
ARS	Advanced Resource Solutions, Inc.
AKA	also known as
ATV	All-Terrain Vehicle
BLM	Bureau of Land Management
CFR	Code of Federal Regulations
CONUS	Conterminous United States
DOI	U.S. Department of the Interior
DR	Decision Record
EA	Environmental Assessment
EIS	Environmental Impact Statement
FLPMA	Federal Land Policy and Management Act
FO	Field Office
GPO	U.S. Government Publishing Office
GPS	Global Positioning System
HPTP	Historic Properties Treatment Plan
I-70	Interstate 70
IDT	Interdisciplinary Team
IMPLAN	Impact Analysis for Planning
LWC	Land with Wilderness Characteristics
MBTA	Migratory Bird Treaty Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NNL	National Natural Landmark
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NSE	NatureServe Explorer
OHV	Off-Highway Vehicle or Off-Road Vehicle
OSNHT	Old Spanish National Historic Trail
PFO	Price Field Office
PLPCO	State of Utah Public Lands Policy Coordinating Office
RAAC	San Rafael Swell Recreation Area Advisory Council
RFO	Richfield Field Office
RMP	Resource Management Plan
ROW	Right-of-Way
SHPO	Utah State Historic Preservation Office
SRMA	Special Recreation Management Area
SRP	Special Recreation Permit
SUWA	Southern Utah Wilderness Alliance
TDS	Total Dissolved Solids
TLA	Utah Trust Lands Administration
TMA	Travel Management Area
TMDL	Total Maximum Daily Load

TMP	Travel Management Plan
Travel PA	BLM's Travel and Transportation Management Programmatic Agreement with the Advisory Council on Historic Preservation and the Utah State Historic Preservation Office
UDWR	Utah Division of Wildlife Resources
UGS	Utah Geological Survey
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UTV	Utility Terrain Vehicle
VRI	Visual Resource Inventory
VRM	Visual Resource Management
WSA	Wilderness Study Area

# 1. INTRODUCTION

## 1.1 BACKGROUND

The Bureau of Land Management's (BLM) 2008 Price Field Office (PFO) Record of Decision and Approved Resource Management Plan (2008 Price RMP), and the 2008 Richfield Field Office (RFO) Record of Decision and Approved Resource Management Plan (2008 Richfield RMP) each incorporated specific designations for off-road vehicle routes, commonly referred to as off-highway vehicles (OHVs) (see Price RMP Map R-18 and Richfield RMP Map 16).<sup>1</sup> The BLM's regulations at 43 Code of Federal Regulations (CFR) 8340.0-5 define OHVs as any motorized vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain, with limited exclusions.<sup>2</sup> For details on BLM's route designation processes for the 2008 RMPs see the 2008 Price RMP pages 29-30 and 113-114 and Maps R-17 and R-18 and the 2008 Richfield RMP pages 19-21 and 122-127 and Maps 15 and 16.

Since the adoption of the 2008 route designations, challenges in implementation and public conformance with route designations have arisen due to ambiguous decisions within the RMPs. For instance, prior to the establishment of the 2008 Price RMP Travel Management Plan (TMP), approximately 5% of the Travel Management Area (TMA) was classified as an OHV-Open area, which permitted cross-country travel and led to the creation of visible routes throughout that open portion of the TMA. The BLM, in the 2008 Price RMP, restricted OHV travel in those open areas to designated routes and deferred route designations in portions of those areas to future activity-level planning efforts (OHV-7). Such route designations never occurred. In addition, the route map in the 2008 Price RMP, Map R-18, is not digitized or interactive and is at such a high scale that it is challenging to tell on the ground which routes were designated open or closed<sup>3</sup>. These factors have contributed to a complex management landscape characterized by user conflicts, resource degradation, confusion among users, and public safety concerns.

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<sup>1</sup> The 2008 Price RMP route designations carried forward designations from the 2003 San Rafael Motorized Route Designation Plan and added some new route designations.

<sup>2</sup> Exclusions include:

- (1) Any nonamphibious registered motorboat;
- (2) Any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes;
- (3) Any vehicle whose use is expressly authorized by the authorized officer, or otherwise officially approved;
- (4) Vehicles in official use;
- (5) E-bikes (i) While being used on roads and trails upon which mechanized, non-motorized use is allowed; (ii) That are being used in a manner where the motor is not exclusively propelling the e-bike for an extended period of time; and (iii) Where the authorized officer has expressly determined, as part of a land-use planning or implementation-level decision, that e-bikes should be treated the same as non-motorized bicycles; and
- (6) Any combat or combat support vehicle when used in times of national defense emergencies.

Note: E-bikes are defined in 43 CFR § 8340.0-5(j) as a two- or three-wheeled cycle with fully operable pedals and an electric motor of not more than 750 watts (1 h.p.) that meets the requirements of one of the following three classes: (1) Class 1 electric bicycle shall mean an electric bicycle equipped with a motor that provides assistance only when the rider is pedaling, and that ceases to provide assistance when the bicycle reaches the speed of 20 miles per hour. (2) Class 2 electric bicycle shall mean an electric bicycle equipped with a motor that may be used exclusively to propel the bicycle, and that is not capable of providing assistance when the bicycle reaches the speed of 20 miles per hour. (3) Class 3 electric bicycle shall mean an electric bicycle equipped with a motor that provides assistance only when the rider is pedaling, and that ceases to provide assistance when the bicycle reaches the speed of 28 miles per hour.).

<sup>3</sup> Under Alternative A, those routes that were not designated in the 2008 Price RMP, unless designated by subsequent implementation-level NEPA like the Good Water Rim Mountain Bike Trail EA, will be included with the OHV-Closed routes for analysis purposes since undesignated routes and OHV-Closed routes are functionally the same for the public OHVs.

Several months after the 2008 RMPs were finalized, the RMPs and their associated TMPs were challenged in federal court.

In approximately 2009, the BLM re-published static maps for public motorized use, which did not encompass the entire TMA and only reflected route designations carried forward from the 2003 travel planning efforts (which were less than what was designated in 2008). Around 2010, Emery County produced a map illustrating roads and trails available for OHV use throughout the entire county. Emery County's map was created for public distribution without BLM input and included several routes that the BLM had not designated for OHV use in 2008. This map is georeferenced and is still available for free download in the Avenza<sup>4</sup> PFD Maps store with "Obsolete" in the title.

In 2011, the BLM began inventorying routes in the San Rafael Swell TMA in preparation for travel planning as required by the 2008 Price RMP's decision OHV-7.

In 2014, the BLM collaborated with Emery County to develop a new map that mirrored the design of the BLM's 2003-2009 map, complete with route numbers and names, while also encompassing the entire county, similar to the County's 2010 map. The BLM provided input on the routes displayed and numerous undesignated routes were updated and shown as non-motorized trails. This map was georeferenced, printed with QR codes, and made available for free download to smart devices for real-time tracking of the user's position in reference to the map. Although this map used GPS technology, it was still not ideal for identifying whether a user was in fact on a designated route or not when multiple routes, some of which were closed, were in close proximity on the ground. In addition to the larger-scale OHV travel maps, BLM interns at the State Office collaborated with the PFO to create recreational maps for smaller areas, such as around Temple Mountain, to highlight recreational opportunities and trails in those regions.

The 2008 RMP litigation resulted in a settlement agreement (hereinafter the 2017 Settlement Agreement<sup>5</sup>) wherein the BLM agreed to create new TMPs for TMAs throughout Utah, including for the San Rafael Swell. The 2017 Settlement Agreement contained various measures that affected the San Rafael Swell TMA and the inventory process that the BLM began in 2011, such as a different boundaries from what was originally planned for the 2011 route inventory, specific cultural resource survey requirements, and additional public notification requirements.

On March 12, 2019, Public Law 116-9, John D. Dingell, Jr. Conservation, Management, and Recreation Act (Dingell Act) was enacted. It contained designations that overlap the TMP including the San Rafael Swell Recreation Area, fourteen wilderness areas<sup>6</sup>, and Jurassic National Monument, all of which contain motorized vehicle requirements. It also required an Emery County Land Exchange involving routes within the TMA.<sup>7</sup> The 2014 Emery County map was updated in 2019 to reflect these new designations.

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<sup>4</sup> Avenza is a mobile app that allows users to view maps offline and locate their position using a device's GPS.

<sup>5</sup> The 2017 Settlement Agreement was a result of *Southern Utah Wilderness Alliance, et al. v. U.S. Department of the Interior, et al.*, U.S. District Court (D. Utah), Consolidated Case No. 2:12-cv-257. The 2017 Settlement Agreement can be accessed online at [https://eplanning.blm.gov/public\\_projects/nepa/93510/169299/205894/Final\\_Settlement\\_Agreement.pdf](https://eplanning.blm.gov/public_projects/nepa/93510/169299/205894/Final_Settlement_Agreement.pdf)

<sup>6</sup> All inventoried routes clearly located within designated wilderness areas were subsequently removed in 2019 to comply with 1964 Wilderness Act, resulting in the evaluation route inventory. BLM had not designated any of the removed routes for OHV use prior to the time the wilderness was designated. See Section 2.1.1.

<sup>7</sup> The BLM published a Notice of Decision on November 13, 2024, initiating a 45-day protest period for the Dingell Act Land Exchange. Adjudication of the Exchange will begin after protests, if any, are resolved or the protest period ends. Routes on TLA are not considered in this planning process; however, routes on TLA parcels acquired by the BLM will be incorporated into the designated travel network in accordance with the agreement governing the exchange and applicable law after the land exchange is finalized.

In 2021, the State of Utah published a Utah Access Map 360°, featuring 360-degree driving videos of routes throughout Utah, including areas within the San Rafael Swell TMA. The map and associated videos included a number of routes that BLM had not designated for OHV use.

In 2022, the BLM provided the public with a user-friendly Ground Transportation Linear Feature (GTLF) data set for designated routes across Utah, including the San Rafael Swell TMA. This development finally offered accurate data in a format compatible with smart devices and was made available to mapping and trail applications so that the routes shown on various apps would be more consistent with BLM designated routes. However, the GTLF data has not been incorporated into many of the third-party mapping applications.

The BLM's PFO and RFO are proposing to designate all evaluated routes within the TMA as OHV-Open, OHV-Limited, or OHV-Closed (see Appendix I for definitions) to form a revised travel network. To inform the effort, the BLM evaluated 2,161 miles of evaluated travel routes (2,149 routes) on 1,149,016 acres of BLM-managed lands in the San Rafael Swell TMA. In this San Rafael Swell TMP environmental assessment (EA) the BLM analyzes the impacts of the proposed route network alternatives. The TMP Implementation Guide (Appendix H) describes actions (education and outreach, sign installation, route maintenance, enforcement, monitoring, and reclamation) that BLM would take after completion of the TMP to minimize impacts or user conflicts from the travel route network. The final travel network will replace existing route designations.

## **1.2 PURPOSE AND NEED**

The need for development of the San Rafael Swell TMP is established by The Federal Land Policy and Management Act (FLPMA) of 1976, as amended (43 U.S.C. 1701 et seq.). FLPMA provides for the management, protection, development, and enhancement of the public lands. Presidential Executive Orders 11644 and 11989, and regulations at 43 CFR § 8342.1, require that the BLM designate OHV routes in a manner that protects the resources of public lands, promotes the safety of all users of those public lands, and minimizes conflicts among the various users of those lands.

The purpose of this TMP is to clearly designate existing routes capable of use by OHVs as OHV-Open, OHV-Limited, or OHV-Closed on BLM-managed lands within the TMA. The TMP will result in a designated travel network that meets the goals and objectives of the TMA's resource values and uses. It will also ensure travel and transportation management in the TMA is in conformance with applicable laws, regulations, and policies.

Additionally, the San Rafael Swell TMP would meet the provisions of the 2017 Settlement Agreement, directing BLM to issue a new TMP for the San Rafael Swell TMA that follows the procedure and documentation requirements outlined in the 2017 Settlement Agreement.

## **1.3 DECISION TO BE MADE**

The BLM Authorized Officer will select a final OHV travel network on BLM-administered lands and will decide within that network which routes will be designated OHV-Open, OHV-Limited, or OHV-Closed. The final OHV travel network will be developed from the range of alternatives considered in this EA and may include the modification of an alternative or a combination of the alternatives. The decision will identify the selected travel network and the rationale for the decision. The BLM's decision will be limited to BLM-administered lands. However, after the Dingell Act land exchange is finalized, routes on acquired lands that correspond with the selected travel network would be incorporated into the OHV travel network in accordance with the agreement governing the exchange and applicable law.

The BLM Authorized Officer will not, in this TMP, authorize construction of any new routes or other surface disturbance that changes the class of routes (see BLM Manual 1626 Sections 4.3 and 7 for

definitions of route classes) or the character, function, or recreational experience the route provides through this TMP effort.

The BLM Authorized Officer will not, in this TMP, make any decisions affecting existing or future authorized users. Authorized users are excluded from the definition of OHV in 43 C.F.R. § 8340.0-5(a). Examples of authorized users include, but are not limited to, grazing permittees who need access to allotments or range facilities, landowners or their lessees who have been authorized to access their inholdings and other permit holders acting pursuant to their permit authorizations (such as rights-of-way or mineral leases). If the selected travel network results in a loss of public OHV access to Utah Trust Lands Administration (TLA) parcels, TLA and its permittees may obtain authorization from BLM, consistent with applicable law, to access those parcels. The BLM will continue to work with current and future authorized users as appropriate to ensure reasonable access. As the need arises, and in accordance with applicable laws and regulations, any route (including those that are designated OHV-Closed) can be made available to authorized users.

The State and Counties have made R.S. 2477 assertions within in the TMA and have brought legal action pertaining to these assertions under the Quiet Title Act (QTA). The State of Utah and its counties may hold valid existing rights-of-way (ROWs) in the TMA pursuant to Revised Statute 2477 (R.S. 2477), Act of July 28, 1866, Chapter 262, 8,14; Stat. 252, 253, codified at 43 USC 932. This travel planning effort does not provide evidence bearing on or addressing the validity of any R.S. 2477 assertions and does not adjudicate, analyze, or otherwise determine the validity of those assertions. The travel plan is subject to valid existing rights. Nothing in this TMP is intended to extinguish a valid existing right or alter the legal rights the State and counties may have to assert R.S. 2477 rights. If it is established that the State or counties possess valid existing R.S. 2477 ROWs in the TMA, the BLM will clarify, through appropriate mechanisms and consistent with applicable law, that the route designations in the travel plan are subject to those ROWs.

The BLM Authorized Officer will not, in this TMP, make any decisions pursuant to non-motorized use. Non-motorized use within the TMA is allowed regardless of future OHV designations (e.g., hikers and horseback riders are not restricted to designated OHV routes).

## 1.4 TMA OVERVIEW

Appendix B shows the San Rafael Swell TMA (Map 1), inventoried routes evaluated and considered for designation (Map 2), and proposed alternatives (Map 3 – Map 6). The majority of the TMA is located in Emery County in eastern Utah and straddles Interstate 70; a small portion of the southwestern side of the TMA is in Sevier County. The TMA lies west of State Road 24, north of the Emery/Wayne County line, and east of Fishlake National Forest and private lands along State Road 10. The TMA also includes an isolated portion on its north end near the Price River and the Jurassic National Monument. The San Rafael Swell is one of the region's most well-known and popular scenic attractions. Within the San Rafael Swell, features such as the Wedge Overlook, San Rafael Reef, Mexican Mountain, Temple Mountain, and Buckhorn Draw attract high levels of recreation visitation.

Table 1-1 depicts a breakdown of the major jurisdictional surface management categories in the TMA.

**Table 1-1: TMA Approximate Acreage by Jurisdiction**

Jurisdiction	Acres	% of TMA
BLM	1,149,016	87%
Trust Lands Administration (TLA)	145,008	11%
Private	10,000	<1%
State Parks and Recreation	9,311	<1%
State Wildlife Reserve/Management Area	990	<1%
<b>Total</b>	<b>1,314,325</b>	<b>100%</b>

## 1.5 CONFORMANCE WITH BLM LAND USE PLANS

The action alternatives described in this document are in conformance with applicable management direction, including the 2008 Price RMP and 2008 Richfield RMP, which provide overarching management decisions, goals, and guidance for this travel planning effort. RMP decisions and goals to which this project conforms are listed in Table 1-2.

**Table 1-2: Key RMP Travel-Related Management Goals, Objectives, and Decisions**

2008 Price RMP	Decision	How the TMP Conforms
<b>Transportation (TRV) Goal (pg. 148)</b>	Continue to support Carbon and Emery counties and the State of Utah in providing a network of roads across public lands.	Through the TMP, the BLM would provide a network for OHV use across public lands in Emery and Sevier counties.
<b>TRV-4 (pg. 148)</b>	To reduce road density, maintain connectivity, and reduce habitat fragmentation, continue to require reclamation of redundant road systems or roads that no longer serve their intended purpose.	The alternatives only include roads that have a public purpose. Through the TMP process, the BLM also reviews all routes for redundancy. The alternatives were developed to reduce that redundancy.
<b>TRV-5 (pg. 148)</b>	In cooperation with the State of Utah and counties, install direction, informational, regulatory, and interpretive signs at appropriate locations throughout the area in conformance with recreation, visual, engineering, and safety objectives.	The BLM developed the TMP alternatives to include implementation including directional and informational signs.

2008 Price RMP	Decision	How the TMP Conforms
<b>TRV-6 (pg. 148-149)</b>	<p>Continue to use the following existing and currently used backcountry airstrips for noncommercial and limited commercial use. Extended commercial use will require an ROW authorization. Any closure of an existing airstrip will be accomplished through consultation with the Federal Aviation Administration, the Utah Division of Aeronautics, and affected user groups and authorization holders on a case-by-case basis:</p> <ul style="list-style-type: none"> <li>• Peter's Point</li> <li>• Mexican Mountain</li> <li>• Cedar Mountain</li> <li>• Hidden Splendor</li> <li>• Tavaputs Ranch.</li> </ul>	<p>The BLM considers designations for Hidden Splendor airstrip in the TMP. The Mexican Mountain airstrip is within the TMA but is within wilderness and is not considered in this decision.</p>
<b>TRV-7 (pg. 149)</b>	<p>Allow aircraft to use existing backcountry airstrips and allow minimal maintenance of the airstrips to ensure pilot and passenger safety.</p>	<p>The BLM considers designations for Hidden Splendor, McKay Flats, Sagebrush Bench, and Cliff Dweller Flat airstrips.</p>
<b>OHV-1 (pg. 113)</b>	<p>In preparing RMP designations and implementation-level travel management plans, the BLM will follow policy and regulation authority found at: 43 C.F.R. Subpart 8340; 43 C.F.R. Subpart 8364; and 43 C.F.R. Subpart 9268.</p>	<p>The BLM will follow 43 C.F.R. Subpart 8340; 43 C.F.R. Subpart 8364; and 43 C.F.R. Subpart 9268.</p>
<b>OHV-2 (pg. 113)</b>	<p>Where the authorized officer determines that OHVs are causing or will cause considerable adverse impacts, the authorized officer shall close or restrict such areas and the public will be notified.</p>	<p>The BLM evaluates adverse impacts in alternative development and analysis. After adoption of the TMP, the BLM will exercise its closure authorities as appropriate.</p>
<b>OHV-3 (pg. 114)</b>	<p>BLM could impose limitations on types of vehicles allowed on specific designated routes if monitoring indicates that a particular type of vehicle is causing disturbance to the soil, wildlife habitat, cultural, or vegetative resources, especially by off-road travel in an area that is limited to designated routes.</p>	<p>The BLM considers limiting certain routes to specific types of vehicles. It also considers ways to minimize disturbances to soil, wildlife habitat, cultural, and vegetative resources.</p>
<b>OHV-5 (pg. 114)</b>	<p>OHV recreation will be managed according to the following open, closed, and limited to designated route categories (Map R-17):</p> <ul style="list-style-type: none"> <li>• 0 acres open</li> <li>• 557,000 acres closed</li> <li>• 1,922,000 acres limited to designated routes.</li> </ul>	<p>The TMP does not alter the area designations made in the 2008 Price RMP. The entirety of the TMA acreage remains limited to designated routes.</p>

2008 Price RMP	Decision	How the TMP Conforms
<b>OHV-7 (pg. 114)</b>	Areas that were open to cross country OHV use in the San Rafael RMP (1991) have been changed to limited to designated routes. However, due to planning oversight, routes in these areas were not displayed on the route maps in the Draft RMP/EIS and therefore the public was unable to comment on these potential decisions. For this reason, the Proposed RMP does not designate any routes in these areas. Future activity-level planning will consider route designations.	The TMA includes approximately 52,000 acres that were designated OHV-Open under the San Rafael RMP. Map 18 in Appendix B displays the OHV-Open areas prior to the 2008 RMPs and which of those areas received route designations at that time, and which of those areas did not and are addressed under this OHV-7 decision. In conformance with OHV-7, the BLM considers this TMP as the future activity-level planning needed to designate routes within that area. 157 miles of routes were inventoried within that area and those routes are being evaluated/considered as part of this TMP.
<b>OHV-9 (pg. 114)</b>	Route designations in the limited to designated category will be periodically reviewed and changes made based on resource conditions, changes in use, and other needs.	The BLM considers route designations based on resource conditions, changes in use, and other needs.
<b>OHV/ REC Goals (pg. 103)</b>	Establish management that provides necessary public services, authentic recreation experience, and opportunity within allowable use levels; minimizes user conflicts; and maintains the healthy ecosystems and settings that provide the basis for recreation opportunity and experience. Provide an environment for and encourage entrepreneurial activities that are supportive of the recreation program goals and objectives.	The BLM considers recreation experience and opportunity, user conflicts in the network, appropriate use levels, and ecosystem impacts.
<b>REC-7 (pg. 104)</b>	Address non-motorized and motorized recreational trails in activity level plans (e.g., designation and/or development of routes/trail systems, maintenance, how the trails relate to the ERMA, SRMA, and specific RMZs, etc.).	The BLM considers alternative route networks and how the trails relate to the SRMA and RMZs.
<b>REC-8 (pg. 104)</b>	Allow mountain biking on all routes designated for OHV use and on June's Bottom and Black Dragon Canyon routes and other routes or areas designated for mountain bike use. Designation of additional mountain bike areas or routes will occur through activity plans.	The BLM considers route networks and how the trails relate to mountain bike use.
<b>WL-8 (pg. 82)</b>	... Minimize road densities by reclaiming redundant roads when new roads access the same general area or when the intended purpose for the roads has been met and they are no longer necessary	The BLM considers OHV route networks, and their densities within habitat, and includes reclamation when the road no longer has a purpose. (See Appendix H).

2008 Price RMP	Decision	How the TMP Conforms
<b>CUL-2 (pg. 74)</b>	Mitigate adverse impacts on cultural resources eligible for listing on the [National Register of Historic Places] resulting from authorized federal undertakings (permitted activities, recreational use, OHV use, etc.) that could affect cultural resources or historic properties.	The BLM considers impacts on cultural resources in alternatives development and analysis.

2008 Richfield RMP	Decision	How the TMP Conforms
<b>Travel Management Goals and Objectives (pg. 122)</b>	<ul style="list-style-type: none"> <li>• Maintain existing access, where needed and allowed, to meet public and administrative needs, including acquiring or maintaining necessary access across non-Federal land.</li> <li>• Continue compatible traditional, current, and future use of the land by establishing a route system that contributes to protection of sensitive resources, accommodates a variety of uses, minimizes user conflicts, and is sustainable.</li> <li>• Consider public access, resource management, and regulatory needs through transportation planning.</li> <li>• Coordinate OHV management with other agencies where possible (U.S. Forest Service (USFS), National Park Service (NPS), State of Utah, counties, and communities).</li> </ul>	The BLM considers these goals and objectives in developing an OHV use route network.
<b>TRC-3 (pg. 122)</b>	The BLM could impose limitations on types of vehicles allowed on specific designated routes if monitoring indicates that a particular type of vehicle is causing disturbance to the soil, wildlife habitat, cultural or vegetative resources, especially by off-road travel in an area that is limited to designated routes.	The BLM considers limiting certain routes to specific types of vehicles. It also considers ways to minimize disturbances to soil, wildlife habitat, cultural, or vegetative resources. BLM will monitor the TMP once adopted as explained in the Implementation Guide, Appendix H.
<b>TRC-6 (pg. 122)</b>	<p>If OHV use in areas designated as open or limited causes threats or adverse impacts to resources, take appropriate steps, including, but not limited to, use restrictions or closures, installation of additional signs and barricades, restoration of affected areas, etc.</p> <p>Balance motorized access to public lands with other resource and resource use needs.</p>	The BLM considers use restrictions or closures, installation of additional signs and barricades, restoration of affected areas to balance access to public lands with other resource and resource use needs.
<b>TRC-18 (pg. 124)</b>	<p>Prohibit all cross-country (off-transportation system) motorized travel in limited areas, with the following exceptions:</p> <ul style="list-style-type: none"> <li>• For emergency and other purposes as authorized under 43 CFR § 8340.0-5(a)(2), (3), (4), and (5).</li> </ul>	The BLM is considering designating an OHV use route network.

2008 Richfield RMP	Decision	How the TMP Conforms
<b>TRC-19 (pg. 124)</b>	Coordinate OHV route designations with USFS, NPS, State of Utah, counties, and communities, where possible.	Coordination with USFS, NPS, State of Utah, counties, and communities, if applicable, regarding route designations occurred where possible as a part of the development of this TMP.
<b>TRC-20 (pg. 124)</b>	Rehabilitate closed OHV routes on a case-by-case basis as required to mitigate impacts to resources. Closed or non-designated routes would be allowed to rehabilitate naturally unless a specific resource impact was occurring that warranted expedited rehabilitation of the route (e.g., soil erosion, water quality concerns, and/or continued illegal use).	Route rehabilitation is considered in this TMP by the BLM.
<b>TRC-21 (pg. 125)</b>	Route designations are implementation decisions that are subject to change based upon future site-specific environmental analysis. Appendix 9 provides additional details of the travel management/route designation process, the implementation process, and the process that would be required to add or remove route designations following completion of the RMP.	BLM considers route designation and implementation in this TMP process.
<b>TRC-23 (pg. 125)</b>	Designate routes for motorized use unless significant, undue damage to or disturbance of the soil, wildlife, wildlife habitat, improvements, cultural or vegetative resources, or other authorized uses of the public lands is imminent.	BLM considers in this TMP how the designation of OHV routes affects resources.
<b>TRC-24 (pg. 125)</b>	Designate routes to minimize harassment of wildlife or significant disruption of wildlife habitats. Give special attention to protecting SSS and their habitats.	BLM considers in this TMP how OHV designations impact harassment of wildlife, disruption of wildlife habitats, and protecting Special Status Species and their habitats.
<b>TRC-25 (pg. 125)</b>	Designate routes to minimize conflicts between OHV use and other existing or proposed recreational uses of the same or neighboring public lands, and to ensure the compatibility of such uses with existing conditions in populated areas, taking into account noise and other factors.	Minimizing recreational user conflicts are being considered by the BLM as a part of this TMP.
<b>TRC-27 (pg. 125)</b>	Consider seasonal closure of designated routes on a case-by-case basis, subject to environmental analysis.	The BLM considers in this TMP seasonal closure of routes on a case-by-case basis to minimize resource impacts.
<b>TRC-30 (pg. 126)</b>	Allow motor vehicles to pull off a designated route up to 50 feet of either side of the centerline for the purposes of parking/staging.	The parking and staging of vehicles off of designated routes is considered by the BLM in this TMP.
<b>TRC-31 (pg. 126)</b>	Allow motor vehicles to use existing spur routes for ingress and egress to established campsites within 150 feet of designated routes. (Previous campsites can be distinguished by evidence of rock fire rings, old tent sites, and tracks from	The BLM considers the effects of the use of existing dispersed camping adjacent to designated routes (see Section 3.1.1).

2008 Richfield RMP	Decision	How the TMP Conforms
	earlier vehicle access.) This does not authorize creation of new campsites or travel ways.	
TRC-32 (pg. 126)	Prohibit motorized travel ways between multiple campsites, establishment of motorized play areas, racetracks, or travel across wet meadows or riparian areas.	The BLM considers ongoing or potential impacts to resources associated with evaluated routes. Addressing unauthorized use will be a continuous part of the implementation of this TMP (see Appendix H).
TRC-33 (pg. 126)	Prohibit motorized access to camping areas where conflicts with other resources are identified.	The BLM considers the impacts of motorized access to camping areas along designated routes.
Recreation Goals and Objectives (pg. 111)	<p>Provide recreational opportunities in a variety of physical, social, and administrative settings, from primitive to near-urban, that allow visitors to have desired recreational experiences and enjoy the resulting benefits.</p> <p>Provide opportunities for recreational experiences unique to the lands managed by the RFO, consistent with resource capabilities and mandated resource requirements; provide for visitor education and interpretation of the recreational opportunities within the RFO.</p> <p>Work with local communities to foster recreation and tourism.</p> <p>Provide for public health, education, and safety through interpretation, facility development, and visitor management.</p> <p>Maintain important recreational values and sites in federal ownership to ensure a continued diversity of recreation settings, activities, and opportunities.</p>	The BLM considers these goals and objectives in developing an OHV route network.
REC-4 (pg. 112)	Consider limiting recreational access, season of use, and numbers of users, if needed, to protect other resources.	The BLM considers route limitations as a method of protecting resources in this TMP.
REC-9 (pg. 113)	Provide signs, trails, trailhead parking, and staging areas to facilitate the use and enjoyment of the ERMA and to protect visitor health, safety, and resources.	The BLM considers existing and potential new signs, trailhead parking, and staging areas within the TMA.
Transportation Facilities Goals and Objectives (pg. 152)	Provide a safe and effective transportation system across public lands.	The alternatives put forward in this are a framework for the BLM to establish a network of designated routes across public lands.

2008 Richfield RMP	Decision	How the TMP Conforms
TRV-1 (pg. 152)	As per the State of Utah v. Andrus, Oct. 1, 1979 (Cotter Decision), the BLM would grant the State of Utah reasonable access to state lands for economic purposes, on a case-by-case basis.	This TMP does not change BLM's responsibilities under the Cotter Decision.
TRV-2 (pg. 152)	Continue to support Sanpete, Sevier, Piute, Garfield and Wayne counties and the State of Utah in providing a network of roads for movement of people, goods, and services across public lands.	The alternatives put forward in this TMP are a framework for the BLM to establish a network of designated routes across public lands.
TRV-5 (pg. 152)	Require reclamation of redundant road systems and/or roads that no longer serve their intended purpose in order to reduce road density and reduce habitat fragmentation.	Reclamation of redundant roads and roads without purpose are considered in this TMP by the BLM. (See Appendix H.)
TRV-8 (pg. 152)	Install directional, informational, regulatory, and interpretive signs at appropriate locations throughout the planning area.	The BLM considers route signing in the Implementation Guide. (See Appendix H.)

## 1.6 RELATIONSHIPS OF THE TMP TO LAWS, REGULATIONS, POLICIES, AND OTHER PLANS

The route network alternatives were developed in accordance with applicable laws, regulations, and BLM policy including, but not limited to, those listed in Table 1-3.

**Table 1-3: TMP Relationship to Laws, Regulations, Policies, and Other Plans**

Law, Regulation, or Plan	Requirement	How the TMP Relates
<b>The National Environmental Policy Act of 1969</b>	NEPA ensures agencies consider the significant environmental consequences of their proposed actions and inform the public about their decision making. The BLM prepared this Environmental Assessment to comply with the requirements.	This document is an Environmental Assessment of BLM's proposal to develop a travel plan. The BLM complied with the 2022 Council of Environmental Quality NEPA regulation changes effective May 20, 2022, because the start date for the project pre-dates the 2024 CEQ NEPA regulation effective date <sup>8</sup>
<b>The Federal Land Policy and</b>	Section 102 requires that public lands be managed in a manner that will protect the quality of various resource values, that	The BLM considered protection of various resource values, their natural condition, and outdoor recreation and human use in

<sup>8</sup> The BLM is aware of the November 12, 2024 decision in *Marin Audubon Society v. Federal Aviation Administration*, No. 23-1067 (D.C. Cir. Nov. 12, 2024). To the extent that a court may conclude that the Council on Environmental Quality (CEQ) regulations implementing NEPA are not judicially enforceable or binding on this agency action, the BLM has nonetheless elected to follow those regulations at 40 C.F.R. Parts 1500– 1508, in addition to the DOI's procedures/regulations implementing NEPA at 43 CFR Part 46, to meet the agency's obligations under NEPA, 42 U.S.C. §§ 4321 et seq.

Law, Regulation, or Plan	Requirement	How the TMP Relates
<b>Management Act of 1976</b>	<p>will preserve and protect certain public lands in their natural condition, and that will provide for outdoor recreation and human occupancy and use.</p> <p>Section 103 requires the management of the public lands and their various resource values to best meet the present and future needs of the American people, a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations, and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment.</p>	<p>the TMP route network alternatives. See Table 1-4, Section 3.3, and 0.</p> <p>The BLM considered the present and future needs of the American people, balanced and diverse resources uses, long term needs of future generations, and harmonious and coordinated management without permanent impairment of the productivity of the land and quality of the environment in the TMP route network alternatives.</p>
<b>John D Dingell Jr. Conservation, Management, And Recreation Act of 2019 (P.L. 116-9)</b>	<p>Section 1221 designates the San Rafael Swell Recreation Area, which is within the TMA boundary, and specifies its purposes and some management.</p> <p>Section 1222 requires the development of a management plan for the San Rafael Swell Recreation Area and that it be developed fully consistent with the settlement agreement entered into on January 13, 2017, in the case in the United States District Court for the District of Utah styled “Southern Utah Wilderness Alliance, et al. v. U.S. Department of the Interior, et al.” and numbered 2:12-cv-257 DAK. It also restricts motor vehicle use to only routes designated for motorized use in the Recreation Area.</p> <p>Section 1231 designates the Emery County wilderness areas, subject to the Wilderness Act, 14 of which are within the TMA boundary.</p> <p>Section 1252 designates the Jurassic National Monument with the Monument occurring within the TMA boundary.</p> <p>Section 1255 mandates the Emery County land exchange, with much of the land proposed for acquisition occurring within the TMA boundary.</p>	<p>The BLM considered the requirements of the designations made by the Act in the TMP route network alternatives.</p> <p>The BLM acknowledged the Emery County land exchange, and its potential future impacts on the TMP route network alternatives. The parcels received from Trust Lands Administration may have existing encumbrances such as roads that correspond with the travel network. The routes will be managed in accordance with the agreement for the encumbrance.</p> <p>The impacts to the San Rafael Swell Recreation Area have been analyzed in brief in Section AIB-4. Detailed analysis for impacts to the designated purpose of the Recreation Area are contained in the Sections listed in AIB-4.</p> <p>Regarding the Wilderness Areas, see the row entitled Wilderness Act of 1964 and AIB-5.</p> <p>Regarding the Jurassic National Monument, the primary access road to this Monument, visitors center, and quarry is a County Class B, well-maintained gravel road classified which is open in the selected network alternative. See Table 1-4.</p> <p>Regarding the land exchange, after it is finalized routes on acquired lands that correspond with the selected travel network would be incorporated into the</p>

Law, Regulation, or Plan	Requirement	How the TMP Relates
		OHV travel network in accordance with the agreement governing the exchange and applicable law.
<b>Wilderness Act of 1964</b>	Section 4 requires there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area.	The BLM does not consider designating any routes within any designated wilderness areas. See AIB-5.
<b>National Trails System Act of 1968 and the Old Spanish Trail Recognition Act of 2002</b>	<p>Section 2 of The Old Spanish Trail Recognition Act of 2002 amended the National Trails System Act to designate the Old Spanish National Historic Trail from Santa Fe, New Mexico, to Los Angeles, California as a National Historic Trail under the National Trail Systems Act.</p> <p>Per Section 7(c): “Where a national historic trail follows existing public roads, developed rights-of-way or waterways, and similar features of man's non-historically related development, approximating the original location of a historic route, such segments may be marked to facilitate retracement of the historic route, and where a national historic trail parallels an existing public road, such road may be marked to commemorate the historic route. Other uses along the historic trails, which will not substantially interfere with the nature and purposes of the trail, and which, at the time of designation, are allowed by administrative regulations, including the use of motorized vehicles, shall be permitted by the Secretary charged with administration of the trail.”</p>	The TMP route network alternatives do not interfere with the nature and purposes of the Old Spanish National Historic Trail (OSNHT). See Table 1-4.
<b>National Historic Preservation Act of 1966</b>	Section 106 requires Federal agencies to assess the effects its actions may have on historic properties.	The BLM assessed adverse effects from its route network alternatives to historic properties in accordance with the requirements of the <i>2018 Programmatic Agreement Among the Advisory Council on Historic Preservation, The Bureau of Land Management-Utah and the Utah State Historic Preservation Office Regarding National Historic Preservation Act Responsibilities for Travel and Transportation Management Undertakings</i> (Travel PA). The TMP is subject to

Law, Regulation, or Plan	Requirement	How the TMP Relates
		consultation under this law as appropriate. See Chapter 4.
<b>Endangered Species Act of 1973</b>	Section 7 requires Federal agency actions do not jeopardize the existence of any listed species.	The BLM considered the effects of the TMP route network alternatives to listed species and their habitats and is subject to consultation under this law as appropriate. See Sections 3.3.6, 3.3.10, and 3.3.11 and Chapter 4.
<b>Migratory Bird Treaty Act of 1918</b>	Prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species.	The BLM considered the effects to migratory birds and their habitats from the TMP route network alternatives. See AIB-12.
<b>Paleontological Resources Preservation Act of 2009</b>	Section 3 directs Federal land managers to maximize the conservation and preservation of paleontological resources on Federal land.	The BLM considered the potential fossil yield classification system and known paleontological sites to identify impacts to paleontological resources from the TMP route network alternatives. See AIB-8.
<b>43 CFR § 8340</b>	Establishes criteria for designation of public lands as open, limited or closed to the use of off-road vehicles and establishes controls governing the use and operation of off-road vehicles in such areas.	The BLM considered the designation criteria and OHV controls in the TMP route network alternatives. These were addressed on an alternative basis (see Sections 2.1.5 through 2.2.6), resource basis (see Section 3.3 and 0 AIB), and a route-specific basis (see Appendix G Route Reports).
<b>43 CFR § 8342.1 designation criteria</b>	<p>States the authorized officer shall designate all public lands as either open, limited, or closed to off-road vehicles. All designations shall be based on the protection of the resources of the public lands, the promotion of the safety of all the users of the public lands, and the minimization of conflicts among various uses of the public lands; and in accordance with the following criteria:</p> <p>(a) Areas and trails shall be located to minimize damage to soil, watershed, vegetation, air, or other resources of the public lands, and to prevent impairment of wilderness suitability.</p> <p>(b) Areas and trails shall be located to minimize harassment of wildlife or significant disruption of wildlife habitats. Special attention will be given to protect endangered or threatened species and their habitats.</p>	The BLM considered resource protection, public safety, and conflict minimization considerations for each TMP route network alternative. The networks were designed via application of the criteria. The criteria were addressed on an alternative basis (see Sections 2.1.4 through 2.1.8), resource basis (see Section and 0 AIB), and a route-specific basis (see Appendix G Route Reports).

Law, Regulation, or Plan	Requirement	How the TMP Relates
	<p>(c) Areas and trails shall be located to minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands, and to ensure the compatibility of such uses with existing conditions in populated areas, taking into account noise and other factors.</p> <p>(d) Areas and trails shall not be located in officially designated wilderness areas or primitive areas. Areas and trails shall be located in natural areas only if the authorized officer determines that off-road vehicle use in such locations will not adversely affect their natural, esthetic, scenic, or other values for which such areas are established.</p>	
<p><b>Executive Order 11644 as amended by Executive Order 11989 Use of Off-Road Vehicles (ORVs) on The Public Lands</b></p>	<p>Section 1 requires procedures to ensure that the use of off-road vehicles on public lands will be controlled and directed so as to protect the resources of those lands, to promote the safety of all users of those lands, and to minimize conflicts among the various uses of those lands</p>	<p>The BLM documented resource protection, public safety, and conflict minimization considerations for each route in the route reports (see Appendix G).</p> <p>The BLM documented route network alternatives resource protection, public safety, and conflict minimization considerations in the EA (see Section 3.3 and 0).</p>
<p><b>BLM's 2016 Travel and Transportation Management Manual (MS-1626)</b></p>	<p>Provides detailed policy, direction and guidance for the comprehensive management of travel and transportation on Bureau of Land Management-administered lands</p>	<p>The BLM followed the policies in this Manual in development of the TMP route network alternatives (see Appendix H), except where those policies differed from the requirements of the Settlement Agreement.</p>
<p><b>BLM's 2012 Travel and Transportation Handbook (H-8342)</b></p>	<p>Provides specific guidance for preparing, amending, revising, maintaining, implementing, monitoring, and evaluating BLM land use and travel management plans</p>	<p>The BLM followed the policies in this Handbook in development of the TMP route network alternatives (see Appendix H), except where those policies differed from the requirements of the Settlement Agreement.</p>
<p><b>Emery County General Plan</b></p>	<p>Section 9.12 states all roads and trails that have been designated open for multiple-use travel in agency planning processes should remain open to the applicable forms of motorized travel, unless sufficient, site specific, environmental or scientifically valid justification exists for the closure of a road or trail. The plan also</p>	<p>The BLM considered existing designations when developing the route network alternatives, including designations of routes used to access camping; however, some roads are proposed for closure due to lack of public purpose and need or due to environmental impacts. (See Appendix G).</p>

Law, Regulation, or Plan	Requirement	How the TMP Relates
	says that the County’s position is that vehicle access will be provided to all historically used campsites. The plan also says Emery County will “support multiple use management by the BLM and USFS in their properly adopted management plans.”	
<b>Sevier County Management Plan</b>	The Land Access section (pg. 12) states that Access for recreational travel is especially important to the County.	The BLM’s route evaluation process included a determination for each route’s public purpose and need, including for recreational travel (See Appendix G).
<b>Utah State Resource Management Plan</b>	<p>The State of Utah’s resource management plan has goals, objectives, and policies (pg. 86-87):</p> <ul style="list-style-type: none"> <li>• Protect traditional and cultural access to public lands.</li> <li>• Maintain access to all R.S. 2477, Class B, and Class D roads and pursue judicial recognition of vested interests and rights through the Quiet Title Act and other legal means.</li> <li>• Strategically expand access to state, School and Institutional Trust Lands Administration, and federal lands to increase the value and enjoyment of parcels.</li> <li>• Identify dedicated easements by each county and locally protect them to maintain access.</li> <li>• Preserve traditional access roads and trails serving mines and other historical uses, in current and future national monuments, and incorporate them into travel-management plans and land-use plans.</li> </ul>	The BLM documented route information when developing the route network alternatives including state and county route status, easements, historical/traditional uses, access to state/private lands, and the purpose and need of each route. State representatives from PLPCO, TLA, and the counties participated in the route evaluations as cooperating agencies to ensure those things were properly captured and considered at that time.

## 1.7 SCOPING AND ISSUES

### 1.7.1 INTERNAL SCOPING

Internal (BLM and Cooperating Agencies) scoping identified route- and network-related issues that could affect the natural and human environment within the TMA. Internal scoping occurred concurrently with the route evaluation and network creation process described in Section 2.1.

### 1.7.2 EXTERNAL SCOPING

An initial round of public scoping occurred from February 1 to March 3, 2021, including two virtual scoping meetings on February 2, 2021, and February 4, 2021. At the close of the scoping period the BLM

received 1,854 scoping comment submittals. Comments provided are summarized in the scoping report, which is available on this plan's ePlanning website<sup>9</sup>.

### 1.7.3 ISSUES

While many preliminary issues related to the route network alternatives were identified through internal and external scoping, not all issues warrant detailed analysis in this EA. Issues that are brought forward for detailed analysis are based on guidance in the BLM NEPA Handbook H-1790-1.

- *Issue 1: How would the route network alternatives impact cultural resources within the TMA?*
- *Issue 2: How would the route network alternatives impact size, apparent naturalness, outstanding opportunities for solitude or primitive and unconfined recreation in lands identified by the BLM as possessing wilderness characteristics?*
- *Issue 3: How would the travel network alternatives impact native vegetation communities?*
- *Issue 4: How would the travel network alternatives impact OHV recreation opportunities and experiences in Emery, Sevier, and Grand counties?*
- *Issue 5: How would the travel network alternatives impact non-motorized recreation access and experiences in the TMA?*
- *Issue 6: How would the route network alternatives impact soil stability?*
- *Issue 7: How would the route network alternatives impact soil health and erosion potential within the TMA?*
- *Issue 8: How would the route network alternatives impact Threatened & Endangered (T&E) plant species and select BLM Sensitive plants and their habitat within the TMA?*
- *Issue 9: How would the route network alternatives impact visual resources within the TMA?*
- *Issue 10: How would the travel network alternatives impact water quality, hydrology, and riparian areas within the TMA?*
- *Issue 11: How would the travel network alternatives impact the introduction and spread of noxious and invasive weeds?*
- *Issue 12: How would the route network alternatives impact T&E and BLM Sensitive fish species and habitat within the TMA?*
- *Issue 13: How would the route network alternatives impact federally listed, candidate, and select BLM Sensitive terrestrial wildlife species and their habitat within the TMA?*

BLM identified an additional 19 issues and determined a detailed analysis was not warranted. These issues are listed below and analyzed in brief in 0 with a concise discussion regarding the context and intensity of the impact related to each issue.

- *AIB-1 (Air Quality): How would the route network alternatives impact air quality in the TMA?*
- *AIB-2 (Greenhouse Gas and Climate Change): How would greenhouse gas emissions from the route network alternatives contribute to climate change?*
- *AIB-3 (ACECs): How would the route network alternatives impact the relevant and important values of ACECs outside of wilderness areas?*

<sup>9</sup> <https://eplanning.blm.gov/eplanning-ui/project/1500146/570>

- *AIB-4 (San Rafael Swell Recreation Area): How would the route network alternatives impact the public purposes of the San Rafael Swell Recreation Area?*
- *AIB-5 (Wilderness): How would the route network alternatives impact wilderness character in designated wilderness areas within the TMA?*
- *AIB-6 (Environmental Justice): How would the route network alternatives impact environmental justice populations?*
- *AIB-7 (Livestock Grazing): How would the route network alternatives impact livestock grazing operations within the TMA?*
- *AIB-8 (Paleontological Resources): How would the route network alternatives impact paleontological resources within the TMA?*
- *AIB-9 (Greater Sage-Grouse): How would the route network alternatives impact Greater sage-grouse and their habitats, including general habitat management area (GHMA) and priority habitat management area (PHMA)?*
- *AIB-10 (Socioeconomics): What are the socioeconomic impacts of the route network alternatives?*
- *AIB-11 (Municipal Watershed/Drinking Water): How would the route network alternatives impact municipal watershed/drinking water source protection zones?*
- *AIB-12 (Migratory Birds): How would the route network alternatives impact migratory birds, including raptors?*
- *AIB-13 (Public Health and Safety): How would the route network alternatives impact public safety within the TMA and emergency services within and adjacent to the TMA?*
- *AIB-14 (Sensitive Plant Species): How would the route network alternatives impact BLM Sensitive plant species?*
- *AIB-15 (Minerals): How would the route network alternatives impact mineral exploration, development, and operations in the TMA?*
- *AIB-16 (Dark Night Skies): How would the route network alternatives impact the quality of dark night skies?*
- *AIB-17 (Natural Soundscapes): How would the route network alternatives impact natural soundscapes?*
- *AIB-18 (Big Game and Upland Game): How would the route network alternatives impact big game and upland game species?*
- *AIB-19 (Sensitive Wildlife Species): How would the route network alternatives impact BLM Sensitive wildlife species?*

Some resources are not associated with potential issues because they are not present or would not be impacted in any way by the route network alternatives. Those resources are listed in Table 1-4 along with explanations concerning why no analysis is needed. Those resources listed in 0 were analyzed in brief because they do not relate to how the proposed action or alternatives respond to the purpose and need or they have no potential for significant impacts.

**Table 1-4: Resources for Which No Analysis Is Necessary**

<b>Resource</b>	<b>Rationale for Why No Analysis Is Necessary</b>
<b>Farmlands (Prime or Unique)</b>	Based on review of the NRCS Web Soil Survey, there are prime farmlands, if irrigated, and Farmland of Statewide Importance within the TMA. Due to the limitations of the NRCS Web Soil Survey to add the entire TMA boundary, sample polygons of up to 100,000 acres were viewed within the TMA boundary. The BLM determined that the amount of prime farmlands make up less than 5% of the total TMA. The prime farmlands are sparse with polygons mainly located around water sources like streams, springs, and wash bottoms. In addition, the BLM would not authorize irrigation of these lands because it is not consistent with the 2008 Price and Richfield RMPs.
<b>Fuels and Fire Management</b>	Fuels and fire management activities would not be affected by the proposed TMP because emergency, authorized, and official travel is not subject to route designations. Temporary road closures to OHVs while responding to those events are allowed for public and responder safety reasons.
<b>Lands and Access</b>	There are currently 39 authorized access rights-of-way (ROW) within the TMA. The TMP would not impact these ROWs because they are granted under a separate authorization independent of the TMP. Additionally, after the Dingell Act land exchange is finalized, any travel related authorizations associated with TLA parcels acquired by the BLM would be incorporated into the chosen travel network in accordance with the agreement governing the exchange and applicable law.
<b>Rangeland Health</b>	The TMA has 61 grazing allotments within its boundaries. Utah's Rangeland Health Standards for Livestock Grazing (BLM 1997) are comprised of the following: upland soils, riparian and wetlands, habitat, and water quality. "The purpose of the standards and guidelines....is to provide a measure (standard) to determine land health, and methods (guidelines) to improve the health of the public rangelands." BLM's job is "...to maintain the health of the land or make appropriate changes on the ground where land health standards are not being achieved" (BLM 2001). Soils; water quality, riparian, and wetlands; and habitat (native vegetation and weeds) are addressed separately in Sections 3.3.5; 3.3.8; and 3.3.3 and 3.3.9, respectively, of this EA. The analysis in those sections focuses on disclosure of the effects of the route network alternatives and those resources. Rangeland health standards for livestock grazing would not be impacted by the route network alternatives because the action is not associated with livestock grazing management and no new disturbance would be created as a result of travel network decisions.
<b>Native American Concerns</b>	The BLM has engaged with 16 tribes that self-associate with the San Rafael Swell. Government to government consultation regarding the potential concerns remains ongoing. See section 4.1.2.

Resource	Rationale for Why No Analysis Is Necessary
<b>Water: Groundwater and Water Right Users</b>	<p>OHV route designations would not impact authorized water right users because these designations are restricted to the surface and water right users would continue to have access after route designations are assigned. In addition, OHV route designations do not involve consumptive water uses.</p> <p>With respect to groundwater, no withdrawals or interruptions of groundwater and no discharges to groundwater are planned or anticipated because of designation of an OHV network. As a result, no impacts to groundwater resources would occur. The Goblin Valley State Park's transient capture zone is located under the southern portion of the TMA; the well was drilled to a depth of 830 feet. This well and the transient capture zone would not be impacted for the reasons indicated above.</p>
<b>Wastes and Hazardous Materials</b>	<p>Because the proposed action is designating existing routes as OHV-Open, -Limited, or -Closed, and is not authorizing the construction of any new routes or new uses, no wastes and no chemicals subject to reporting would be created or authorized by any of the alternatives Super Fund Amendments and Reauthorization Act (SARA) Title III in amounts greater than 10,000 pounds.</p>
<b>Wilderness Study Areas</b>	<p>There are no Wilderness Study Areas (WSAs) located within the TMA. In 2019, the Dingell Act Section 1231 converted the majority of the then-existing WSAs in the TMA to Wilderness Areas, and Section 1234 released the rest of the WSAs from further wilderness study. The nearest WSAs to the TMA are as follows:</p> <p>Mount Ellen-Blue Hills WSA is 10 miles south; Dirty Devil WSA is 8.5 miles southeast; Horseshoe Canyon South WSA is 10 miles southeast; Desolation Canyon WSA is over 12 miles east and northeast; and Floy Canyon WSA is 16 miles east. No impacts are anticipated to WSAs from the proposed alternatives.</p>
<b>Woodland/Forestry</b>	<p>Woodland/Forestry resources within the TMA are limited and the management of these resources would not be impacted because all routes being considered for designation already exist on the ground. Therefore, no new surface disturbance within areas containing woodlands or forestry would be authorized under any alternative.</p>
<b>National Scenic and Historic Trails</b>	<p>There are no National Scenic Trails within the TMA. The congressionally designated Old Spanish National Historic Trail (OSNHT) follows closely around a portion of the TMA boundary. There are 7 routes (22.6 miles) that are identified and signed as motorized recreational routes associated with the trail experience. Those routes provide access to 5 developed roadside interpretive sites and 4 non-motorized trailheads associated with the OSNHT. These routes are open in every action alternative. Cultural site analysis related to the heritage sites associated with the OSNHT is included in Section 3.3.1 of this EA. Recreational access associated with motorized and non-motorized trails related to the OSNHT can be found in Section 3.3.4. Visual resource analysis related to the OSNHT can be found in Section 3.3.7. No impacts are anticipated from the proposed alternatives.</p>

Resource	Rationale for Why No Analysis Is Necessary
<b>National Monuments/ National Conservation Areas</b>	There are no National Conservation Areas located within the TMA. The closest National Conservation Area (NCA) is the John Wesley Powell NCA, which is over 100 miles northeast of the TMA. The 850-acre Jurassic National Monument sits within the TMA. The primary access road to this Monument, visitors center, and quarry is a well-maintained gravel road classified by the county as a Class B road. The primary access route, which is open in all alternatives, would continue to be used as such. The primary access road provides access to the visitor center and quarry which conserves, interprets, and enhances for the benefit of present and future generations the paleontological, scientific, educational, and recreational resources of the area. Other routes within the Monument include an existing route that accesses a water tank, and a route near the north boundary of the Monument. Both routes are open in Alternative D but closed to the public in all other alternatives. Opening the routes may enhance the recreational purpose of the Monument by providing additional short OHV routes. Closing the routes would conserve the paleontological, scientific, educational, and recreational resources of the area by reducing motorized access to improve visitor experience around and within the Monument by reducing the risk of unauthorized fossil collection.
<b>Outstanding Natural Areas, Research Natural Areas, National Wildlife Refuges</b>	There are no research natural areas, outstanding natural areas, or national wildlife refuges within the TMA. The Ouray National Wildlife Refuge is over 90 miles to the northeast of the TMA. No impacts are anticipated from the proposed alternatives.
<b>Wild and Scenic Rivers</b>	There are no Congressionally designated, BLM suitable, or protected eligible Wild and Scenic River segments within the TMA. The designated Green Wild and Scenic River is located approximately 15 miles east of the TMA, and no impacts are anticipated from the route network alternatives due to their distance from the TMA.
<b>National/State Parks</b>	Capitol Reef National Park is located adjacent to the southwest corner of the TMA. Goblin Valley State Park is located within the southern part of the TMA. All inventoried routes that provide public access to either park unit are proposed to be designated OHV-Open in all action alternatives. The Horseshoe Canyon unit of Canyonlands National Park is over 20 miles southeast of the TMA. Arches National Park is over 35 miles east of the TMA. No impacts are anticipated from the route network alternatives as a result.
<b>Wild Horses and Burros</b>	The Muddy Creek and Sinbad herd management areas are within the TMA boundary. Use by the recreating public on designated routes would not affect the orderly administration of the Wild Horse and Burro Program. Viewing of Wild Horses and Burros can be done from these routes and have been for over 50 years. In situations where the animals feel uncomfortable, they are able to vacate the area. Therefore, the designation of routes within the TMA would not impact Wild Horses and Burros.

## 2 ALTERNATIVES

### 2.1 TRAVEL NETWORK DEVELOPMENT METHODOLOGY

The BLM developed the proposed route designation alternatives (see maps in Appendix B) by compiling an inventory of existing routes within the TMA (see Section 2.1.1); evaluating the routes in accordance with BLM policy (see Section 2.1.2), the 2017 Settlement Agreement, and the Dingell Act; and gathering and incorporating feedback from the public and cooperating agencies (see Sections 1.7 and 4.2).

#### 2.1.1 ROUTE INVENTORY

Starting in 2011, the BLM created an *original route inventory* within the TMA using a combination of previous travel plans<sup>10</sup>, aerial photography, BLM and County GIS data, maps, and ground-truthing (i.e., driving routes on the ground). This included inventorying 159 miles of routes in the OHV-Open areas where the 2008 Price RMP did not designate any routes and required future activity-level planning (see the 2008 Price RMP, page 26). See Map 19 for a depiction of the former location of these areas and the routes inventoried within them.

In 2019, the BLM refined the *original route inventory* in accordance with BLM Manual 1626 Section 1.4.C.6 by removing linear disturbances that are not travel related (e.g., game trails, cattle trails, fence-lines, reclaimed historic routes, reclaimed routes on old maps or aerial imagery, and seismic exploration scars), and in accordance with BLM Manual 6140 Section 1.6.B.2.b and c by removing permanent and temporary routes in the wilderness areas designated by the Dingell Act. This *evaluation route inventory* contained approximately 2,536 miles of routes.

In 2023, the BLM further refined the *evaluation route inventory* by removing 375 miles of inventoried but undesignated routes the IDT determined had no purpose or need, were no longer capable of use by OHVs because they have substantially reclaimed, were wash bottoms that do not receive vehicle traffic, were route realignments no longer in use, and were short dead-end spurs with disproportionate resource concerns.

The remaining 2,161 miles of routes is called hereafter the *total evaluated network*. The total evaluated network is the basis for the proposed network alternatives analyzed in this EA. It includes routes managed as closed under the 2008 RMP which have received regular and continuous public OHV use over time<sup>11</sup> even when such use was not authorized, so that reconstruction would not be needed if they were designated OHV-Open or OHV-Limited. Therefore the 2,161 miles of routes in this inventory, if designated OHV-Open or OHV-Limited, will not result in new surface disturbances.

The *preliminary alternatives route inventory* is synonymous with the “total evaluated network” referenced throughout this EA.

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<sup>10</sup> These travel plans include the 2008 Price RMP’s Map R-18 BLM system/County roads, designated routes from the San Rafael Route Designation Plan, proposed routes, other routes, and Federal and State roads. These travel plans also include the 2008 Richfield RMP’s Map 16 designated routes, designated routes with seasonal closure or size/width restrictions, closed routes, and other routes. These travel plans also include the 2003 San Rafael Route Designation Plan.

<sup>11</sup> The “regular and continuous use” is based on BLM observation of route use, though the regular and continuous use of the level 5 routes is different from the regular and continuous use of the level 0, 1, and 3 routes (see Appendix H for definitions). See Appendix H for additional information regarding the route classes and route maintenance frequencies.

## 2.1.2 ROUTE EVALUATION AND NETWORK ALTERNATIVE DEVELOPMENT

Beginning in 2019, the BLM interdisciplinary team (IDT) and cooperating agencies (the evaluators; see Section 4.2.1 for a list of cooperating agencies) evaluated the approximately 2,536 miles of routes in the evaluation route inventory. Week-long route-evaluation meetings were held every month for nearly two years. During those meetings, the evaluators reviewed each route using agency GIS data (including resource survey data), personal knowledge, and, when necessary, data from field checks. For each route, the evaluators documented the following:

- characteristics (e.g., maintenance frequency, class, use level, vehicle type accommodation),
- condition (e.g., braiding, washed out),
- connectivity (e.g., if the route on adjacent land ownerships is open to public use),
- public purpose and need (e.g., destinations or experiences provided by the route, whether the other routes provide access to the same destinations or experiences),
- known user conflicts,
- official and/or authorized uses (e.g., facility access, permit access, etc.),
- recreational attractions (e.g., campsites, overlooks),
- resource values (e.g., within or near special status species or habitat), and
- necessity of the route within the network alternative considering that alternative's theme. All alternatives proposed provide some degree of resource protection; however, to provide greater ease in understanding the intent of each theme, the following general themes are provided (resource protection emphasis, multiple use emphasis, and access emphasis).

In addition to cataloging the resources relating to each route and route attributes, the reports include the proposed designation for the subject route under each alternative travel network. When identifying proposed designations, the evaluators weighed the purpose and need for each route against the resource conflicts, along with the route's role in the overall travel network, to determine in which, if any, of the action alternatives B-E the route would be designated for OHV use. Additionally, evaluators considered and discussed route locations and characteristics and explored opportunities and techniques for avoiding or mitigating route designation effects to minimize damage, disruption, and conflict with various resources and among users. The evaluators proposed routes as open, limited, or closed in areas where doing so would result in minimal resource damage or redirect travel to routes in less sensitive areas. In some cases, the evaluators identified management actions associated with the proposed route designations. Those management actions BLM has committed to are documented in Appendix H. The evaluators also considered network connectivity and alternative goals to create the proposed range of alternatives.

In 2023, to create the route network alternatives, the BLM IDT spent nine weeks updating the route evaluation data in the route reports to incorporate public scoping comments, as appropriate; data gathered during additional site visits; updated land with wilderness characteristics (LWC) inventories; and various survey findings (cultural resources, special status plant, and Mexican spotted owl). During this time, the BLM also delineated 22 route network geographic areas (see Appendix C and Map 8). These areas were delineated based on natural separating features such as topography, major roads such as Interstate 70, and the already established TMP boundary. In addition to the separating features, the BLM also considered the diverse recreational experiences and opportunities that were present to help further separate the route network geographic areas. The BLM then revised the proposed range of alternatives considering the new information and the network connectivity in these smaller geographic areas. The BLM also documented how route minimization is being accomplished by opening and closing routes within each area. The changes resulted in the BLM's preliminary route network alternatives.

In February 2024, the BLM released the preliminary route network alternatives to the cooperating agencies and then the public so they could provide feedback. In April 2024 the BLM reviewed over 500 comments received and made changes as appropriate. Most of the comments expressed route designation preferences that were already represented in at least one alternative and therefore did not result in any changes. The BLM received comments on approximately 20 routes that proposed OHV-Closed in every action alternative. The BLM reviewed and considered those comments carefully and either changed the proposed designation in Alternative D to OHV-Open or documented in the project record reasoning for not making any change. Where comments asserted that BLM needed to adjust route-related data in the route reports, BLM did so, as appropriate.

## 2.2 ALTERNATIVES

OHV route designations (OHV-Open, OHV-Limited, and OHV-Closed) are defined in Appendix I and on page 7-3 of the BLM Travel and Transportation Management Manual (BLM 2016b). Maps showing proposed travel networks and designations for Alternatives A, B, C, D, and E can be found in Appendix B.

### 2.2.1 COMMON TO ALL ALTERNATIVES

BLM used the designation criteria at 43 CFR 8342.1 to inform the creation of each alternative network. The designation criteria regulations do not require BLM to eliminate all resource impacts that arise from the designation of a route network. However, the alternative-specific impact minimization considerations are addressed in each Alternative.

Also, the TMP Implementation Guide (Appendix H) describes actions that BLM will take after completion of the TMP to minimize impacts or user conflicts from the travel network. The Implementation Guide applies regardless of the route network alternative selected (i.e., common to all alternatives). These actions include education and outreach, sign installation, route maintenance, enforcement, monitoring, and reclamation. The Implementation Guide also identifies BLM's objectives, commitments, priorities, and applicable policies and regulations.

The route network alternatives are described below. Table 2-1 and Table 2-2 show the number of miles to be designated OHV-Open, OHV-Limited, and OHV-Closed in each alternative. BLM notes there are 53 miles of routes included in the evaluated network that are open in the existing TMP (Alternative A) but are receiving negligible to no use from the public (no public purpose or need), have a known resource issue that needs to be resolved, or are otherwise not sustainable. BLM has proposed closing those routes in Alternatives B, C, D, and E.

**Table 2-1: Miles of Routes Proposed as OHV-Open, OHV-Limited, and OHV-Closed in Each Alternative**

	Alt. A	Alt. B		Alt. C		Alt. D		Alt. E	
Designation	Miles	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)
OHV-Open	1,330	1,112	-218	1,522	+192	1,924	+594	1,355	+26
OHV-Limited	99	82	-17	180	+81	183	+84	141	+42
OHV-Closed	732	967	+235	458	-274	53	-679	665	-67

**Table 2-2: Miles of Evaluated Routes by Specific Designation**

	Alt. A	Alt. B		Alt. C		Alt. D		Alt. E	
Designation	Miles	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)
Open to all use (OHV-Open)	1,330	1,112	-218	1,522	+192	1,924	+594	1,355	+26
Limited to vehicles less than 66" (OHV-Limited)	-	23	+23	58	+58	47	+47	33	+33
Limited to vehicles less than 52" (OHV-Limited)	3	3	-	-	-3	-	-3	-	-3
Limited to single-track vehicles (OHV-Limited)	47	42	-5	103	+57	118	+72	89	+42
Limited to E-bikes (OHV-Limited)	12	12	-	17	+5	17	+5	13	+1
Limited to aircraft (OHV-Limited)	-	0.5	+0.5	1	+1	1	+1	1	+1
Limited by season (OHV-Limited)	37	1	-36	1	-36	-	-37	4	-33
Closed (OHV-Closed)	732	967	+235	458	-274	53	-679	665	-67

### 2.2.2 ALTERNATIVE A (NO ACTION)

Alternative A represents the continuation of current designations alternative (hereafter called “No Action”) and consists of the current route management system as of 2024. This alternative is based on the 2008 Price RMP and 2008 Richfield RMP route designations within the San Rafael Swell TMA boundaries, as modified over the last 14 years by the Dingell Act Wilderness designations (see footnote<sup>12</sup>

<sup>12</sup> According to public comment, approximately 298 miles of inventoried routes within the Dingell Act-designated Wilderness Areas were not evaluated because they are closed by Federal statute and therefore cannot be designated under any route network alternative contemplated in the TMP process. None of these routes were previously designated as OHV-Open or -Limited in the 2008 RMP’s TMP. The mileage was not field verified as the routes were closed by federal statute and outside the scope of the analysis for this document. However, a portion of the 126 miles of County Class D routes now within wilderness were identified as hiking and equestrian trails and were never open to or intended for OHV use.

Wilderness Area	Miles of County D Routes within Designated Wilderness	Miles of Inventoried Routes within Designated Wilderness
Big Wild Horse Mesa	0	2
Cold Wash	6	1
Devil's Canyon	5	1
Eagle Canyon	7	1
Horse Valley	0	7
Little Ocean Draw	0	13
Little Wild Horse Canyon	0	3
Lower Last Chance	0	57

below for additional information) and other implementation-level route designations such as the 2020 Good Water Rim Mountain Bike Trail EA, DOI-BLM-UT-G020-2020-0018-EA. While changes are not proposed under Alternative A, it still provides for continuation of current route designations and would have route use-related effects comparable to the action alternatives. Alternative A is used as a baseline for comparison between the alternatives.

Alternative A includes designated routes (on BLM-managed lands only) available for OHV use (OHV-Open or OHV-Limited) as described in the 2008 Price RMP (pg. 37) and depicted on Map R-18; and as described in the 2008 Richfield RMP (pg. 122-127) and as depicted on Map 16. Under Alternative A, those routes that were undesignated in the 2008 Price RMP, unless designated by subsequent implementation level NEPA like the Good Water Rim Mountain Bike Trail EA, will be included with the OHV-Closed routes for analysis purposes since undesignated routes and OHV-Closed routes are functionally the same for the public OHVs. The routes designated in the 2008 RMPs as OHV-Open comprise 62% and OHV-Limited comprise 5% of the total evaluated route miles. Under this alternative, 34% of evaluated route miles throughout the TMA would be managed as OHV-Closed.

### 2.2.3 ALTERNATIVE B (RESOURCE PROTECTION EMPHASIS)

Alternative B's route network was designed with the objective to reduce impacts to wildlife habitats, special status species habitats, natural and cultural resources, ecosystems, and landscapes such as BLM natural areas<sup>13</sup> and LWCs. Therefore, OHV use is more constrained under this alternative than under any other alternative. The BLM did not prioritize route closures in areas that did not include these sensitive resources. The BLM also designed the network proposed under this alternative to retain routes for OHV-based recreation and experiences in areas such as the Sids Mountain and Behind the Reef route network geographic areas (see Appendix C). In Alternative B, 51% of the evaluated route miles would be designated OHV-Open, 4% OHV-Limited, and 45% would be closed. Of the routes designated as OHV-Limited, 68 miles would be limited by vehicle size, 12 miles would be limited to e-bikes, 0.5 miles would be limited to aircraft, and 1 mile would be limited seasonally (an access route to Jurassic National Monument allowing public use only when the Monument is staffed).

### 2.2.4 ALTERNATIVE C (MULTIPLE USE EMPHASIS)

Alternative C's route network was designed with the objective to reduce impacts to natural resources such as special status plant habitats, cultural resources, and BLM Natural Areas and LWCs. However, this alternative provides a greater level of access than Alternative B. It also incorporates width limitations to reduce motorized user conflicts.

In this alternative, 70% of the evaluated route miles would be designated OHV-Open, 8% OHV-Limited, and 21% OHV-Closed. Of the OHV-Limited routes, 161 miles would be limited by vehicle size, 17 miles

Mexican Mountain	18	14
Middle Wild Horse Mesa	0	18
Muddy Creek	5	38
Red's Canyon	0	4
San Rafael Reef	29	9
Sid's Mountain	56	4
<b>Total</b>	126	172

<sup>13</sup> BLM natural areas are LWC inventory units determined to possess lands with wilderness characteristics in which an RMP decision states BLM would manage to protect, preserve, and maintain their inventoried wilderness characteristics.

would be limited to e-bikes, 1 mile would be limited to aircraft, and 1 mile would be limited seasonally (an access route to Jurassic National Monument allowing public use only when the Monument is staffed).

### **2.2.5 ALTERNATIVE D (ACCESS EMPHASIS)**

Alternative D's route network provides a greater level of access than other alternatives. Regardless, this network was designed with the objective to reduce impacts through closures for sensitive resources such as cultural resources and special status plant habitats. This network allows for the most OHV-based access opportunities of any of the action alternatives, including additional route designations in historic mining areas such as Calf Mesa, Temple Mountain, Tomsich Butte, and Buckmaster Draw.

In this alternative, 89% of the evaluated route miles would be designated OHV-Open, 8% would be designated OHV-Limited, and 2% would be closed. Of the OHV-Limited routes, 165 miles would be limited by vehicle size, 17 miles would be limited to e-bikes, and 1 mile would be limited to aircraft.

### **2.2.6 ALTERNATIVE E (PUBLIC COMMENT ADJUSTED ALTERNATIVE)**

Alternative E is the action alternative that was created by the BLM following the Draft EA public comment period. It was formulated with the BLM's consideration of comments from the general public, user groups, Tribes, Cooperators, and government agencies. This alternative provides equitable and sustainable recreation opportunities for all visitors and meets access needs throughout the TMA while minimizing the potential for user conflicts and damage to natural and cultural resources. For example, it was designed to reduce impacts to wildlife habitats, special status species habitats, natural and cultural resources, ecosystems, and landscapes such as BLM Natural Areas and LWCs. However, it would designate more miles for OHV use than Alternatives A and B, though it has fewer miles than Alternatives C and D.

In this alternative, 63% of the evaluated route miles would be designated OHV-Open, 7% would be designated OHV-Limited, and 31% would be closed. Of the OHV-Limited routes, 122 miles would be limited by vehicle size, 13 miles would be limited to e-bikes, 1 mile would be limited to aircraft, and 4 miles would be limited seasonally.

## **2.3 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS**

The BLM considered but dismissed from detailed analysis the following alternatives.

### **2.3.1 DESIGNATE NON-ROUTES FOR OHV USE**

The BLM considered opening disturbances noted in the original route inventory (e.g., game trails, cattle trails, fence lines, etc. See Section 2.1.1) to OHV use.

These disturbances are not currently capable of accommodating OHV use, and construction of new routes is not within the scope of this project; however, the possibility of future addition of new routes is part of the operation and management of the overall travel network. As part of ongoing travel management associated with this TMP, route designations may be added or changed in the future. Any new or changed designations would be subject to site-specific environmental analysis in accordance with applicable law, including NEPA, and Travel-related decisions in the 2008 RMPs.

This plan's purpose and need (Section 1.2) limits the scope of the plan to designating existing routes capable of accommodating OHVs as OHV-Open, OHV-Limited, or OHV-Closed. The BLM did not carry this alternative forward for detailed analysis because it would not conform to the plan's purpose and need.

### **2.3.2 DESIGNATE ALL ROUTES OHV-CLOSED**

The BLM considered designating all evaluated routes in the TMA OHV-Closed.

This alternative would not meet the purpose and need because designating all evaluated routes as OHV-Closed fundamentally represents an elimination of the travel network rather than designating a travel network that provides for OHV use. In addition, this alternative would not conform to the 2008 Price RMP's goal to provide a network of roads across public lands and objective to develop and maintain a Transportation Plan. The BLM did not carry this alternative forward for detailed analysis because it would not conform to the plan's purpose and need.

### **2.3.3 DESIGNATE ALL ROUTES AVAILABLE FOR OHV USE**

The BLM considered designating all evaluated routes in the TMA as available for public OHV use. This alternative would not meet the purpose and need because designating all evaluated routes as available for OHV use does not account for the regulations at 43 CFR § 8342.1 which require designations to be based on the protection of the resources of the public lands, the promotion of the safety of all the users of public lands, and the minimization of conflicts among various uses of public lands. It would also not account for the 2017 Settlement Agreement requirement that a "route without an identified purpose and need will not be proposed as part of the dedicated route network." In addition, this alternative would not conform to the 2008 Price RMP's management decision TRV-4 that requires the BLM to reduce road density, maintain connectivity, and reduce habitat fragmentation, and continue to require reclamation of redundant road systems or roads that no longer serve their intended purpose. The BLM did not carry this alternative forward for detailed analysis because it would not conform to the plan's purpose and need.

### **2.3.4 DESIGNATE 375 MILES OF INVENTORIED ROUTES THAT HAD NO IDENTIFIED PURPOSE AND NEED FROM INTERNAL AND PUBLIC SCOPING**

The BLM considered authorizing OHV use on approximately 375 miles of evaluated (but undesignated) routes that were identified as having no public purpose and need. Examples of these routes include, but are not limited to, reclaimed historic routes (routes on old maps or aerial imagery that no longer exist on the ground), routes that are no longer capable of use by OHVs, wash bottoms that do not receive vehicle traffic, or routes that were old alignments and were redundant to other routes directly adjacent, or short dead-end spurs that had resource concerns identified. This plan's purpose and need (Section 1.2) limits the scope of the plan to existing routes capable of use by OHVs. Additionally, the Settlement Agreement specifies that "A route without an identified purpose and need will not be proposed as part of the dedicated route network in any action alternatives in the NEPA document." The BLM did not carry this alternative forward for detailed analysis because it would not be consistent with BLM's obligations under the 2017 Settlement Agreement or conform to the plan's purpose and need.

### **2.3.5 CARRYING FORWARD THE 2008 RMPs' TMPs**

The public requested that the BLM consider an alternative that matches the 2008 RMPs' TMPs, or that the No Action Alternative be replaced with the 2008 TMPs. The BLM dismissed carrying forward the 2008 RMPs' TMPs as an alternative because it is out of conformance with BLM policy. Specifically, in accordance with BLM Handbook 1790 Section 6.6.2, the No Action Alternative provides a useful baseline for comparison of environmental effects and demonstrates the consequences of not meeting the need for the action. The following actions affected the baseline management of the TMA after the 2008 RMPs' TMPs were signed.

- First, the Dingell Act designated wilderness areas in the TMA, so in accordance with BLM Manual 6140 Section 1.6.B.2.b and c, the BLM removed 294 miles of evaluated but undesignated

routes from all Alternatives including the No Action Alternative. For more information on this topic, see footnote 12 on page 25.

- Second, in 2020, the BLM completed the NEPA for the Good Water Rim Mountain Bike Trail, DOI-BLM-UT-G020-2020-0018-EA. That trail was not included in the 2008 Price RMP's TMP.

Excluding them from the No Action Alternative would not provide a useful baseline for comparison of environmental effects because it would include more miles of routes than are available by law and policy and exclude already designated e-bike trails.

### **2.3.6 CARRYING FORWARD THE 2003 TMP**

The public requested that the BLM consider an alternative that matches the 2003 San Rafael Route Designation Plan, or that the No Action Alternative be replaced with the 2003 San Rafael Route Designation Plan. The BLM dismissed carrying forward the 2003 San Rafael Route Designation Plan as an alternative because it is out of conformance with BLM policy. Specifically, in accordance with BLM Handbook 1790 Section 6.6.2, the No Action Alternative provides a useful baseline for comparison of environmental effects and demonstrates the consequences of not meeting the need for the action. The following actions affected the baseline management of the TMA after the 2003 San Rafael Route Designation Plan was signed:

- First, the 2008 Price RMP TMP carried forward route designations from the to the 2003 San Rafael Route Designation Plan, however areas outside the 2003 planning area – which did not cover the entire San Rafael Swell TMA -- did receive additional route designations. The 2008 Price RMP also changed areas that were open to cross county OHV use in the prior San Rafael RMP (1991) to “limited to designated routes,” but the 2008 RMP's TMP did not designate routes in these areas (see Map 19).
- Second, the Dingell Act designated wilderness areas in the TMA, so in accordance with BLM Manual 6140 Section 1.6.B.2.b and c, BLM removed 294 miles of inventoried but undesignated routes from all Alternatives including the No Action Alternative. For more information on this topic, see footnote 12 on page 25.
- Third, in 2020, the BLM completed the NEPA for the Good Water Rim Mountain Bike Trail, DOI-BLM-UT-G020-2020-0018-EA. That trail was not included in the 2008 Price RMP's TMP.

Excluding them from the No Action Alternative would not provide a useful baseline for comparison of environmental effects because it would include OHV-Open areas that no longer exist, more miles of routes than are available by law and policy and exclude designated e-bike trails.

### **2.3.7 DEFERRING THE TMP UNTIL COMPLETION OF THE RMP AMENDMENTS**

The public requested that the BLM consider deferring completion of the TMP until the ongoing RMP Amendments are completed. The three RMP Amendments are the Greater Sage-grouse RMP Amendment<sup>14</sup>, the Utility-Scale Solar Energy Development RMP Amendment<sup>15</sup>, and the San Rafael Swell RMP Amendment<sup>16</sup>.

In accordance with BLM Handbook 1601, Section VII.E, existing land use plan decisions remain in effect during an amendment or revision until the amendment or revision is completed and approved. A decision to temporarily defer an action could be made where a different land use or allocation is currently being considered in the preferred alternative of a draft or proposed RMP revision or amendment. The land use allocations applicable to the travel plan are OHV area designations, so the BLM reviewed the RMP

<sup>14</sup> Available at <https://eplanning.blm.gov/eplanning-ui/project/2016719/510>

<sup>15</sup> Available at <https://eplanning.blm.gov/eplanning-ui/project/2022371/510>

<sup>16</sup> Available at <https://eplanning.blm.gov/eplanning-ui/project/2011631/510>

Amendments' available information for possible changes to the OHV area designations. The BLM found that:

- The Greater Sage-grouse RMP Amendment does not propose changes to OHV area designations under any alternatives, per the draft EIS (See the DEIS/RMPA Section 2.6.5).
- The Utility-Scale Solar Energy Development RMP Amendment does not propose changes to OHV area designations under any alternatives, per the final EIS (see the FEIS/RMPA Table 2.1-1).
- Based on the Scoping Report for the San Rafael Swell RMP Amendment, the public requested that the BLM identify areas as suitable or not suitable for motorized or off-highway vehicle or aircraft use. If aspects of the TMP are inconsistent with the final RMP amendment, the TMP would be adjusted accordingly (See EA Section 1.5, AIB-4).

Therefore, the BLM dismissed the alternative to defer the TMP until completion of the RMP Amendments because it is inconsistent with planning policy.

### **3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL EFFECTS**

#### **3.1 OVERVIEW**

This chapter describes the existing condition and trend of issue-related elements of the human environment that may be affected by the route network alternatives. It also identifies the known and predicted effects (BLM 2008a) which are related to the issues (BLM 2008a) that are identified in Section 1.7.3 and analyzed in Section 3.3. Whereas the analysis area for each issue is specific to the issue being analyzed, the TMA is the same for all alternatives. For an overview of the TMA setting, see Section 1.4.

##### **3.1.1 GENERAL SETTING AND ASSUMPTIONS**

###### **3.1.1.1 Parking and Passing**

As part of OHV use of designated routes, the BLM assumes that OHVs may occasionally need to pull off for purposes of passing or parking. The BLM documented known off-route parking areas on evaluated routes in the Route Reports (Appendix G). It is assumed that pulling completely off a route for passing or parking only occurs on the narrow, low-use routes because wide, high use routes typically have adequate room or pull-off locations for passing or parking (e.g., additional existing width from roadside ditches, drain dip outlets, or spur route intersections). It is further assumed that, on narrow, low-use routes vehicles parking or passing off-route is infrequent. However, when vehicles do have to park or pass along these routes, it is assumed that they would typically pull off the designated route to the minimum extent possible to safely park. For analysis purposes, the routes identified as "roads" in the route evaluation process, totaling 413 miles, are assumed to have room for parking or passing, and the routes identified as "primitive road, trail, primitive route, temporary route, or transportation linear disturbance," totaling 1,748 miles, are those where parking or passing may infrequently occur.

###### **3.1.1.2 Visitor Distribution**

From site-specific vehicle counters (see Table 3-13), the BLM estimates that the five most popular recreation opportunities within the Buckhorn/Wedge and Temple Mountain Recreation Management Zones (RMZs)—the Wedge Overlook, Buckhorn Draw, Wild Horse Road, Temple Wash/Temple Mountain, and Little Wild Horse Canyon—account for 41.5% of recreation visits to the TMA (see

Section 3.3.4.1). Based on this prominent concentration of recreational use and the preservation of access to these areas under all alternatives, even though the alternatives would change the route networks available for motorized recreation opportunities elsewhere in the TMA they would not meaningfully change visitation to these popular areas nor would they result in visitor use being distributed differently across the TMA.

### **3.1.1.3 Dispersed Camping, Parking and Staging**

There are approximately 140 miles of evaluated routes subject to TRC-30 and -31 in the Richfield RMP. For these routes, the RMP makes specific allowances for parking and staging along designated routes within 50 feet of centerline (TRC-30) as well as dispersed camping at existing campsite disturbances on existing spur routes along designated routes within 150 feet of centerline (TRC-31). For evaluated routes subject to TRC-30 and -31 that BLM is proposing to designate as OHV-Open or OHV-Limited, the BLM assumes in this EA that impacts of use within the off-route allowance is substantially similar to those associated with use along the route where BLM is proposing to authorize OHV use. This assumption is supported by the route-specific resource data documented during route evaluations which document resources within at least 150 feet of all routes. BLM's documentation shows that the resources present within the off-route allowances are the same as or substantially similar to those associated with the route BLM is proposing to designate as OHV-Open or OHV-Limited.

### **3.1.1.4 Routes, Uses, Destinations, and Attractions**

None of the alternatives would authorize the construction of routes, authorize use of a route that has not already been subject to ongoing use even if such use was unauthorized, add or remove access to major area destinations, authorize events, create or remove an attraction that would draw new visitors, or authorize an action (such as construction) that would involve worker access. The impacts that occurred when the routes were created are ongoing.

### **3.1.1.5 Analysis Timeframe**

For the purposes of estimating the temporal scope of the impacts, the BLM assumes the timeframe for this plan is 20 years in order to account for impacts that may occur over longer timeframes such as reclamation success.

### **3.1.1.6 Public Land User Compliance with Designations and Regulations**

By formally designating currently undesignated routes as OHV-closed, through active route closures, and by making the network available for user-friendly technology, this TMP is anticipated to result in a clear route network and a higher rate of user compliance with route designations. BLM anticipates this higher rate of compliance and associated reduction in resource impacts will occur in part because of the proliferation of recreational GPS mapping apps and devices coupled with free and accurate downloads of the designated routes. The Implementation Guide details the maps and GIS data commitments that BLM will fulfil when the new TMP is finalized. These publicly available resources will ensure the public has more accurate and user-friendly information than has historically been available.

The BLM assumes that public land users will operate their OHVs in accordance with the TMP designations and the regulations. The BLM further assumes that public land users will follow regulations designed to protect public land resources such as cultural sites and paleontological sites. Finally, public land users that fail to comply with these regulations will be subject to an appropriate level of law enforcement regardless of alternative. See the Implementation Guide, Appendix H, for more information about BLM's enforcement program.

### 3.2 CUMULATIVE IMPACT SCENARIO

This section outlines past, present, and reasonably foreseeable future actions and trends in Emery and Sevier County. This cumulative impact scenario also includes the 2017 Settlement Agreement TMPs as well as the travel management plans that preceded the Settlement because they are still in place. This includes TMPs and TMP updates in Kanab, Moab, Price, Richfield and Vernal BLM Offices (eastern Utah). The TMP updates are relevant because they are occurring in similar timeframes. Eastern Utah is the appropriate analysis region because this area encompasses the red rock desert motorized recreation experience in Utah, which is different from the west desert and other adjacent motorized experiences. This section appears prior to the impacts analysis because it is intended to provide broad context for those analyses and the activities occurring region wide. The cumulative effects associated with the issues are then discussed on an issue-by-issue basis in Section 3.3 and are informed by the data and information provided here. In recent decades, the influences on the landscape in the region of southeastern Utah that the TMA falls within include the following:

- Travel management planning
- Livestock grazing and grazing management
- Utilities and water development
- Wildlife habitat management
- Recreation
- Mineral development

The acreage of the region with these influences on the landscape are provided in Table 3-1. All these influences on the landscape in this area are anticipated to continue based on information available to BLM at this time. Reasonably foreseeable future actions over the 20 years are detailed in Section 3.2.1 through 3.2.6.

**Table 3-1: Acres in Regions Relevant to the Cumulative Actions in the Analysis Area.**

Event or Action	Acres in Regions
Price Field Office Travel Management Planning covers 2,500,000 acres of BLM-managed lands and contains 1,300 miles of designated routes not counting system roads <ul style="list-style-type: none"> <li>• San Rafael Desert TMA portion is 380,000 acres and 702 miles of routes(complete)</li> <li>• San Rafael Swell TMA portion is 900,000 acres (underway)</li> <li>• Nine Mile Canyon TMA portion is 140,000 acres (pending)</li> </ul>	2,500,000
Vernal Field Office Travel Management Planning covers 1,700,000 acres of BLM-managed lands and 4,900 miles of routes <ul style="list-style-type: none"> <li>• Dinosaur North TMA portion is 200,000 acres (underway)</li> <li>• Book Cliffs TMA portion is 600,000 acres (pending)</li> <li>• Nine Mile Canyon TMA portion is 220,000 acres (pending)</li> </ul>	1,700,000
Moab Field Office Travel Management Planning covers 1,800,000 acres of BLM-managed lands and 3,700 miles of routes <ul style="list-style-type: none"> <li>• Labyrinth Rims Gemini Bridges TMA<sup>1</sup> portion is 300,000 acres and 712 miles of routes (complete)</li> <li>• Canyon Rims (Indian Creek) TMA<sup>1</sup> portion is 91,000 acres and 226 miles of routes (complete)</li> <li>• Dolores River TMA portion is 127,000 acres (underway)</li> <li>• Book Cliffs TMA portion is 5,000 acres (pending)</li> </ul>	1,800,000
Richfield Field Office Travel Management Planning covers 2,100,000 acres of BLM-managed lands and 3,700 miles of routes <ul style="list-style-type: none"> <li>• Henry Mountains Fremont Gorge TMA portion is 1,400,000 acres (underway)</li> <li>• San Rafael Swell TMA portion is 200,000 acres (underway)</li> </ul>	2,100,000

Event or Action	Acres in Regions
Kanab Field Office Travel Management Planning covers 550,000 acres of BLM-managed lands and 1,400 miles of routes <ul style="list-style-type: none"> <li>Trail Canyon TMA portion is 320,000 acres (pending)</li> <li>Paunsaugunt TMA portion is 180,000 acres (underway)</li> </ul>	600,000
Livestock Grazing and Grazing Management <sup>1</sup>	1,910,977
Utilities and Water Development: Solar Development <sup>1</sup>	2,361
Utilities and Water Development: Goblin Valley Power and Fiber Optic Line <sup>2</sup>	65
Utilities and Water Development: Olsen Reservoir expansion <sup>2</sup>	1,300
Wildlife Habitat Management: Price River Restoration <sup>1</sup>	9,884
Recreation: Swinging Bridge Campground <sup>1</sup>	25
Recreation: Buckhorn Wash Campground <sup>1</sup>	15
Recreation: Temple Mountain Townsite Campground <sup>1</sup>	5
Recreation: South Temple Wash Campground <sup>1</sup>	5
Recreation: Wedge Campground <sup>2</sup>	66
Mineral Development: Locatable <sup>1</sup>	359
Mineral Development: Mineral Materials <sup>1</sup>	95
Mineral Development: Fluid	20

<sup>1</sup>These events/actions have had influences on the landscape in recent decades (past events/actions), are current influences (present events/actions), and are anticipated to continue into the future (reasonably foreseeable future actions).

<sup>2</sup>These events/actions have not occurred yet. They are reasonably foreseeable future actions.

### 3.2.1 TRAVEL MANAGEMENT PLANNING

Authorized OHV use in the analysis area has evolved over time to respond to resource impacts, changes in vehicle capabilities, changes in visitation numbers and types, and congressional designations. Most recently, in 2008, Utah BLM completed travel management plans for the Price, Vernal, Moab, Richfield, and Kanab planning areas including roughly 15,000 miles of system routes. In an effort to update travel plans across the state, Utah BLM has identified 31 TMAs. Thirteen of those TMAs, including the San Rafael Swell TMA, are a part of the 2017 Settlement Agreement that is applicable to this planning effort:

- Henry Mountains and Fremont Gorge,
- Dinosaur (North),
- Book Cliffs (Moab),
- Book Cliffs (Vernal),
- Nine Mile Canyon (Price),
- Nine Mile Canyon (Vernal),
- San Rafael Desert,
- Canyon Rims (Indian Creek),

- Labyrinth Rims Gemini Bridges,
- Dolores River,
- Trail Canyon, and
- Paunsaugunt.

Since 2022 Utah BLM has completed new TMPs (San Rafael Desert, Labyrinth Rims Gemini Bridges, and Canyon Rims (Indian Creek) including roughly 5,000 miles of routes designated for OHV use, most of which were previously designated in the 2008 plans.

In addition, the Forest Service has made approximately 2,500 miles of Forest Service system routes available for motorized use on Forest Service-managed lands within the exterior boundaries of the Price, Richfield, and Moab field offices.

### **3.2.2 LIVESTOCK GRAZING AND GRAZING MANAGEMENT**

Livestock grazing has occurred extensively across the region in recent decades. The BLM Price and Richfield field offices currently manage 62 grazing allotments that are relevant to resource effects. These allotments make up 1,910,977 acres of the region and contain numerous rangeland improvements. Livestock grazing is reasonably foreseeable to continue.

### **3.2.3 UTILITIES AND WATER DEVELOPMENT**

On BLM, state, and private lands, there are two relevant utilities/water developments that are reasonably foreseeable in the region: Goblin Valley Power and Fiber Optic Line and Olsen Reservoir expansion. These developments would result in 1,300 acres of disturbance. Additionally, there are 2,361 acres of state land slated for reasonably foreseeable solar development.

### **3.2.4 WILDLIFE HABITAT MANAGEMENT**

Within the region, there are a variety of known plans and structures related to wildlife habitat management including private, state, and federal restoration initiatives, conservation monitoring, and vegetation treatments. In conjunction with the State of Utah, the San Rafael River Restoration project was started in 2015 and Price River Restoration project in 2020. These efforts are reasonably foreseeable to continue. The Price River Restoration projects are planned to encompass 9,884 acres. The Lower San Rafael River Restoration efforts have executed approximately 244 acres of treatment outside the TMA and another 52 acres of treatment within the TMA on BLM-administered lands. BLM is unaware of the total acreage that has been executed on State and Private lands at this time, but additional treatments in these areas are expected to continue as planned/approved which includes approximately 60 more acres on BLM-administered lands. BLM monitoring efforts for plants and vegetation management are on-going throughout the region and are reasonably foreseeable to continue.

### **3.2.5 RECREATION**

The region is impacted by recreational management and developments and recreationists. BLM anticipates motorized and non-motorized visitation and recreation in the TMA will increase over time commensurate with population growth regardless of which alternative is selected, as observed elsewhere in Utah (Smith and Miller 2020). The BLM actively manages Special Recreation Management Areas (SRMAs) to attain outcomes identified in the 2008 Price RMP (see Appendix R-9), administers special recreation permits (SRPs) for commercial operators and organized groups on designated routes, and provides a variety of free, dispersed recreation in accordance with 2008 Price RMP policy. Specific regional opportunities include casual motor vehicle touring for scenery appreciation, nature photography, off-roading, mountain biking, canyoneering, river running, hunting, equestrian riding, backpacking,

hiking, astronomy, geology study, viewing cultural sites, backcountry aviation, and camping. The PFO has four campgrounds making up 50 acres of land and 66 acres planned for an additional campground to be constructed in the next three years. BLM actively works on improving existing trailheads and staging areas that are delineated with fencing, resurfacing, and adding informational kiosks. Additionally, the counties maintain routes classified by the county as Class B for use by all motor vehicles, and BLM maintains particularly degraded portions of routes classified by the county as Class D on an ad-hoc basis, especially those popular among OHV recreationists. External to BLM, the state of Utah manages Goblin Valley State Park<sup>17</sup> and the Historic Spirit Railroad Complex which bring recreationists into the region each year, many likely traveling across BLM lands.

### **3.2.6 MINERAL DEVELOPMENT**

The BLM allows for mineral development of locatable minerals, mineral materials, and leasable minerals.

#### **3.2.6.1 Locatable Minerals**

There are four locatable Plans of Operations and two Notices within the planning area in the authorized or interim reclamation stage with the BLM as of October 7, 2024, totaling 92 acres of disturbance. The largest mine is a gypsum mine that has disturbed 71 acres since 2007, with an additional 146 acres to potentially be disturbed through the year 2048. According to the Mineral and Land Records System (MLRS), since October 2009, 24 Notices and Plans of Operations were closed with approximately 121 recorded acres.

There are 455 active mining claims within the planning area, most of which are for uranium, vanadium, and gypsum deposits. Four operators are in the process of completing Notices to conduct uranium exploration east of the San Rafael Reef, one of which could disturb three acres inside the TMA. Operators cannot disturb more than 5 acres under a Notice. It is reasonably foreseeable that gypsum, uranium, and vanadium operators will continue to submit Notice-level exploration proposals or Plans of Operations. Not all mining claims are likely to be developed, and new claims and sites cannot be located or established within a wilderness area or the San Rafael Swell Recreation Area after the date of the area's designation.

#### **3.2.6.2 Mineral Materials**

There are 11 mineral materials sites within the planning area with an approximate total disturbance of 53 acres. Six of the sites are Free Use Permits and five are BLM community pits. These mineral material sites were originally authorized between 1974 and 2002. The BLM has received an application for the expansion of a Free Use Permit near Fremont Junction/I-70 for an additional 17 acres of disturbance or 32 total acres. There is interest in developing a 25-acre humate mine near Emery, but a complete application has not been submitted. Because wilderness areas and the San Rafael Swell Recreation Area are withdrawn from future mineral materials operations, there could be a decrease in the number of those sites within the planning area after the current ones are closed. New mineral materials sites could be developed outside withdrawn areas if local demand increases.

#### **3.2.6.3 Leasable Minerals**

**Oil and Gas** – A review of BLM and Utah Division of Oil, Gas, and Mining data<sup>2</sup> found seven existing shut-in wells and three temporarily abandoned wells (not producing but capable of production) that are

<sup>17</sup> Goblin Valley State Park brought in 413,376 visitors in 2023.

<https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fstateparks.utah.gov%2Fwp-content%2Fuploads%2Fsites%2F13%2F2023%2F07%2FVisitation-FY23-Final.xlsx&wdOrigin=BROWSELINK>  
Data obtained from <https://stateparks.utah.gov/resources/park-visitation-data/>.

relevant to the plan. Assuming two acres per well, that would total 20 acres of disturbance. MLRS GIS data showed there are 18 authorized/interim leases. The 2008 Price and Richfield RMPs' Mineral Potential Reports found moderate to high occurrence potential for coal bed methane on the western border of the TMA and no occurrence potential within the rest of the planning area. There has been minimal interest in the area recently. New natural gas wells are not currently economic to drill in the TMA, making future oil and gas development less likely. Therefore, current reasonably foreseeable trends at this time are that there will be little to no interest in the planning area.

Coal – Three miles southeast of the town of Emery, there are 40 acres of a 120-acre coal lease within the TMA. If any coal from this lease is produced in the future, it would be unlikely to cause surface disturbance within the TMA because their mining is done underground.

Non-Energy Solid Leasable Minerals – There are no non-energy solid leasable mineral leases within the planning area and development is not reasonably foreseeable because there is little occurrence potential.<sup>18</sup>

### 3.3 ISSUES ANALYZED IN DETAIL

The following issues are analyzed in detail because they relate to how the proposed action or alternatives respond to the purpose and need or analysis is needed to determine the significance of the impacts.

#### 3.3.1 CULTURAL RESOURCES

*Issue 1: How would the route network alternatives impact cultural resources within the TMA?*

The analysis area for cultural resources impacts<sup>19</sup> is the area within a quarter mile buffer of all routes under consideration for designation as OHV-Open or OHV-Limited within each travel network alternative because that encompasses both the direct and indirect areas of potential effect for cultural resources. The temporal scope of analysis is 20 years (see Section 3.1.1). The analysis area includes route within the San Rafael Swell Recreation Area, in which the Dingell Act calls for the protection, conservation, and enhancement of its cultural, historical, and educational resources. The following cultural resource analysis also approximates the effects to Native American tribal concerns regarding indigenous sites and site protection.

##### 3.3.1.1 Affected Environment

The types of cultural sites that can be found within this TMA are historic, ethnohistoric, and prehistoric. A few examples of historic sites may include structures such as cabins, dams related to historic grazing, Civilian Conservation Corps sites such as culverts and camps, and abandoned mining complexes. The historic sites in this TMA date back to the mid-1800s at the earliest, but most of them are from the early 1900s, which is when the towns surrounding this TMA were first settled. A few examples of prehistoric sites include rock imagery panels, rock shelters with stone structures or other evidence of ancient inhabitation, and artifacts such as projectile points, ceramics, stone tools, and lithic flake scatters. The prehistoric resources can range from hundreds of years old to more than 9,000 years old depending on the

<sup>18</sup> Utah Division of Oil, Gas, and Mining data also identified 148 wells that were either plugged and abandoned, or location abandoned but not drilled. These are not considered to be past, present, or reasonably foreseeable future activities because they were never drilled or they have been completely reclaimed and accepted for final abandonment, therefore they are not or are no longer impacting the environment.

<sup>19</sup> The NEPA analysis herein is formulated using the results of BLM's Section 106 process and uses the Section 106 definitions of terms, which differ slightly from the NEPA term definitions but are analogous enough to be comparable and discussed across both laws. The objective of Section 106 corresponds with NEPA's objective – to identify what potential impacts and effects this TMP could pose to cultural resources through continued public OHV use of routes. For more information see Appendix F.

sites and length of habitation or continued use. The Barrier Canyon Style and San Rafael Style rock imagery panels found in the San Rafael Swell are iconic and span over 2,000 years before present. All cultural resources are unique, fragile, and non-renewable in nature, thereby warranting federal protection.

To identify, document, and evaluate cultural resources in the TMA, BLM contracted two permitted Cultural Resource Management firms to compile literature reviews, perform in-depth research, and conduct Class III Intensive Field Surveys of 22,442.62 acres between 2019–2021 (Cannon and Schwendler 2020; Krussow et al. 2021). The BLM archaeologist reviewed previously recorded site data in the areas of direct APE where Class III was not required, per the 2017 Settlement Agreement and Travel PA. The contractors documented 173 isolated finds and recommended them all insignificant. In total, BLM analyzed 1,398 cultural sites through the Section 106 process for this TMP. The contractors also documented 173 isolated finds, recommended not eligible for the NRHP. The Class III survey work that was completed complied with the 2017 Settlement Agreement by surveying routes within select cultural ACECs and along routes and route segments in areas determined to have high potential for cultural resources. High potential areas were determined by the Class I Existing Data Inventory compiled per the Settlement Agreement and the PFO Site Potential Model developed from the Class I data.

The cumulative impact scenario described in Section 3.2 of this EA provides a quantitative overview of past, present, and reasonably foreseeable future federal undertakings in the TMA. All the actions listed in Section 3.2 have potential to affect historic properties. The risk of impacts to cultural resources from the federal actions in the table is low, due to the federal government’s responsibility to comply with the National Historic Preservation Act (NHPA) for every proposed undertaking that has potential to effect historic properties.

### 3.3.1.2 Environmental Effects Analysis

When creating the alternative route networks, the BLM evaluated cultural resources and avoided or minimized effects at a route specific level considering the goal of the alternative and using resource-, route-, and alternative-appropriate measures including but not limited to closure (avoidance) and the minimization measures described in the Historic Properties Treatment Plan (HPTP). BLM policy dictates the Field Manager will prioritize avoidance of significant cultural resource sites when reasonable and feasible to do so. When BLM identified disproportionally large OHV impacts to cultural resources or unresolved conflicts, the BLM prioritized closure regardless of alternative. For open and limited routes, through the HPTP, the BLM chose administrative or direct site treatment measures to minimize impacts where necessary.

In the direct APE, 683 sites occur of which up to 332 are physically intersected by routes under the alternatives being considered (Table 3-2). 220 sites are near (within 100 feet) but not physically intersected by routes (Table 3-3). 715 sites occur within the indirect APE (Table 3-4) When qualified by NRHP eligibility and quantified by network alternative, the occurrence of cultural sites can be compared between alternatives as displayed in Table 3-2 through Table 3-4<sup>20</sup>:

**Table 3-2: Number of Cultural Sites Intersected by Open/Limited Routes (Direct APE)**

Site Status	Alt A	Alt B	Alt C	Alt D	Alt E
NRHP Listed	2	1	1	1	1
NRHP Eligible	96	67	101	119	88
Not Eligible for NRHP	136	105	157	197	140
Undetermined NRHP Eligibility	12	9	15	15	15
<b>Total Sites in Alternative</b>	<b>246</b>	<b>182</b>	<b>274</b>	<b>332</b>	<b>244</b>

<sup>20</sup> The numbers in these tables are the best available data at the time of writing.

**Table 3-3: Number of Cultural Sites within 100 Feet of Open/Limited Routes (Direct APE)**

Site Status	Alt A	Alt B	Alt C	Alt D	Alt E
NRHP Listed	1	1	1	2	1
NRHP Eligible	51	48	64	67	58
Not Eligible for NRHP	97	76	106	130	104
Undetermined NRHP Eligibility	15	12	16	21	15
<b>Total Sites in Alternative</b>	<b>164</b>	<b>137</b>	<b>187</b>	<b>220</b>	<b>178</b>

**Table 3-4: Number of Cultural Sites within ¼-Mile of Open/Limited Routes (Indirect APE)**

Site Status	Alt A	Alt B	Alt C	Alt D	Alt E
NRHP Listed	4	5	6	5	5
NRHP Eligible	167	171	197	225	190
Not Eligible for NRHP	208	197	248	279	226
Undetermined NRHP Eligibility	149	109	176	206	135
<b>Total Sites in Alternative</b>	<b>528</b>	<b>482</b>	<b>627</b>	<b>715</b>	<b>556</b>

Both incidental and intentional human impacts pose threats to cultural resources in numerous ways (Sampson 2009). Direct or indirect adverse effects may occur to historic properties if impacts from use of routes designated as OHV-Open or OHV-Limited become intense enough to damage their NRHP significance. For example, OHV travel through or immediately adjacent to a historic property could cause soil erosion from tires resulting in exposure and erosion of significant in situ artifact deposits or subsurface features at the time of the activity or incrementally over time, damaging or destroying the archaeological data they contain and therefore their ability to convey their national or regional importance within their cultural context. Other examples of causal factors notably include illegal activity impacts; public access can increase incidences of crime, such as vandalism and looting with malintent or through negligence. Incidental or intentional impacts from everyday outdoor public recreation activities using or based out of OHVs may also occur, such as dispersed camping fire rings, trash, and personal waste within sites. OHV route use in close vicinity to sites may also contribute to dust accumulation on cultural resources; however, dust caused by passing OHVs versus natural dust caused by constant winds are indistinguishable during site documentation.

In 2008, archaeologist Spangler studied vandalism and recreational impacts to cultural resources in Nine Mile Canyon, which has a 45-mile stretch of winding road through a ravine valley in Carbon County, Utah. This study is an appropriate model for comparison to the TMA analysis, because Nine Mile Canyon is similarly popular with recreationists as the San Rafael Swell. Krussow et al. summarized the Spangler results comparable to their observations during the San Rafael Swell TMA Class III surveys as follows:

Spangler's (2008) study determined that the proximity of a road did not correlate with looting at sites in Nine Mile Canyon; however, it was noted that sites with residential structures were targeted, especially sites with features visible from the road. Easy access from roads was also a determining factor for graffiti at sites. Spangler found that rock art sites located 30 meters or less from a road had a 35 percent chance of being impacted by graffiti. Recreational impacts such as social trails, litter, and evidence of camping (which could directly affect sites when campers gather in groups, collect firewood, or unintentionally bury their waste in cultural deposits) were also assessed. In Nine Mile Canyon, social trails (42 percent well-worn trails and 17 percent ephemeral trails) had been established, and trash was observed along 38 percent of the sites in the study. In the [San Rafael Swell] TMA . . . archaeologists noted several well-worn trails and many ephemeral trails leading to rock imagery and mining sites, as well as litter and evidence of camping in several areas. It should be noted that most of these trails and camp spots are a long-term

result of the dispersed camping permissible on BLM lands in Emery County [as was the case in Nine Mile Canyon prior to 2008]. There are also well-established, user-created campgrounds the BLM aims to contain against proliferation. These include several RMP-designated, fee-based built campgrounds with single and group space options, picnic tables, fire pits, and facilities the BLM regularly maintains to reduce camping proliferation and] control human waste (2021).

Assuming an historic property is present on a route, designating that route OHV-Open or OHV-Limited means public OHV users will have the potential to cause adverse effects. The inverse is also true: designating that route OHV-Closed eliminates the potential for public OHV use to cause adverse effects, meaning a determination of no adverse effect can be reached. Therefore, designating routes OHV-Closed through this action would be the most effective method of protecting cultural resources in the TMA, assuming OHV users behave responsibly and do not intentionally perpetrate unauthorized access or illegal activities (Hedquist et al. 2014).

Based on the above analyses, the BLM determined OHV use, including incidental use such as passing, parking, and staging, and associated maintenance (See Appendix H) may result in adverse effects to historic properties, the quantity of which depends on the chosen alternative. TMP implementation activities that could minimize effects to historic properties include sign placement directing OHVs to stay on designated routes, legal enforcement of the route system, monitoring of impacts, and closure of routes as appropriate. Potential adverse effects to historic properties were assessed and can be compared across route network alternatives as follows (Table 3-5).

**Table 3-5: TMP Effects on Historic Properties Under Section 106<sup>21</sup>**

<b>TMP Effects</b>	<b>Alt A</b>	<b>Alt B</b>	<b>Alt C</b>	<b>Alt D</b>	<b>Alt E</b>
Potential Adverse Effects	27	15	24	25	22

Thirty-nine historic properties on BLM-administered land in the analysis area were identified during the Class III Intensive Field Surveys that could be harmed by potential adverse effects from the TMP undertaking. Per Stipulation V. of the TPA, BLM developed and consulted on an Historic Properties Treatment Plan to resolve the adverse effects to historic properties through protective measures designed to avoid, minimize, or mitigate the impacts from the proposed route network. BLM will conduct a combination of treatments with the objective of avoiding, minimizing, and mitigating the potential adverse effects. These treatments can include the protective measures detailed in Appendix F, applied in combinations based on site specific conditions, to create best management practices for each unique situation. Many historic properties in the treatment plan have features observable from the adjacent vehicle routes and dispersed camp spots that draw recreationists to the sites; some historic properties have direct impacts from vehicle tires; evidence of vandalism and looting are common at most cultural sites in the analysis area, and many sites have accumulated damage from recreational use of the land resulting in wear and tear of routes and dispersed campsite proliferation. All these impacts and more can be reasonably foreseen to continue damaging the historic properties after approval of the TMP unless protective conservation methods are implemented to avoid, minimize, and mitigate the adverse effects. For a detailed list of protective measures prescribed by BLM policy in Manual 8140, see Appendix F. For a description of the National Historic Preservation Act Section 106 Consultation under the TPA, see Section 4.1.1.

<sup>21</sup> The numbers in this table are the best available at the time of writing.

#### **3.3.1.2.1 Alternative A (No Action)**

Alternative A would pose the most potential adverse effects to historic properties (27) and would require the BLM to implement the most protective measures. Alternative A would have more potential adverse effects than Alternatives B, C, D, or E.

#### **3.3.1.2.2 Alternative B (Resource Protection Emphasis)**

Alternative B would pose the least potential adverse effects to historic properties (15) than any other alternative and would require the BLM to implement the fewest number of protective measures. Alternative B has the fewest potential adverse effects compared to the other alternatives.

#### **3.3.1.2.3 Alternative C (Multiple Use Emphasis)**

Alternative C would pose fewer potential adverse effects to historic properties (24) than Alternative A and would require BLM to implement fewer protective measures. Alternative C has more potential for adverse effects than Alternatives B and E, but less than Alternatives A and D.

#### **3.3.1.2.4 Alternative D (Access Emphasis)**

Alternative D would pose fewer potential adverse effects to historic properties (25) than Alternative A, but more than Alternatives B, C, or E. Alternative D would require the BLM to implement more protective measures than Alternatives B, C, or E. Alternative D has more potential for adverse effects than Alternatives B, C, or E, but less than Alternative A.

#### **3.3.1.2.5 Alternative E (Public Comment Adjusted Alternative)**

Alternative E would pose fewer potential adverse effects to historic properties (22) than Alternatives A, C, or D and would require the BLM to implement fewer protective measures. Alternative E has more potential for adverse effects and would require more protective measures than Alternative B.

#### **3.3.1.2.6 Cumulative Impacts**

Impacts to cultural resources from the past, present and reasonably foreseeable future events/actions (Section 3.2) have been and will continue to be low, within the ~~acceptable~~ range discussed above that would not cause adverse effects to historic properties.

To demonstrate this quantitatively: in the 58 years since the NHPA was signed into law (1966), 369 Section 106 compliance projects have taken place within the analysis area. Of those 369 projects<sup>22</sup>, fewer than 234 (63%) occurred in or overlapped this TMP's Section 106 indirect APE. Since the 2017 Settlement Agreement was reached, only one (0.4%) of the projects—Morrison-Knudsen Tunnels Safety Maintenance—was considered within the TMP's indirect APE that would have caused an adverse effect to a historic property (42EM3491, Morrison-Knudsen Tunnels), had it been implemented. In 2018, after weighing the project's purpose and need against the adverse effect it would cause, BLM cancelled the NEPA action to protect the historic property. BLM anticipates the TMA's past, present, and reasonably foreseeable events/action would continue these trends regarding cultural resources and protection of historic properties further in time and farther in distance when future actions under the types of activities listed in Section 3.2 are proposed in the TMA.

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<sup>22</sup> Includes projects on private and state-administered properties within the TMA, therefore projects only occurring on the BLM-administered land being considered for this TMP action were fewer than 369.

### **3.3.2 LANDS WITH WILDERNESS CHARACTERISTICS AND BLM NATURAL AREAS**

*Issue 2: How would the route network alternatives impact size, apparent naturalness, outstanding opportunities for solitude or primitive and unconfined recreation in lands identified by the BLM as possessing wilderness characteristics?*

The analysis area is the Lands with Wilderness Characteristics (LWC) unit and BLM natural area boundaries overlapping the TMA, including portions of those BLM natural areas extending beyond the TMA because these units have the potential to be impacted by travel management decisions contemplated in this EA. The temporal scope of analysis is 20 years (see Section 3.1.1)

#### **3.3.2.1 Affected Environment**

LWC units are public lands inventoried per BLM Manual 6310 – Conducting Wilderness Characteristics Inventory on BLM Lands (BLM 2021b) that generally contain at least 5,000 contiguous roadless BLM acres, or if less than 5,000 acres, are contiguous to an area of Federal lands formally managed for the protection of wilderness characteristics such as designated Wilderness, WSA, or recommended wilderness in USFS or NPS lands. LWC units have been further determined to possess naturalness by appearing to be primarily affected by the forces of nature, provide outstanding opportunities for solitude and/or primitive and unconfined recreation, and may have supplemental values such as ecological, geological, or other scientific, educational, or historical (BLM 2021b). LWC inventory findings are only a resource determination and are not a special land use allocation or designation per se. LWC units are not actively managed for the protection of their wilderness character unless a BLM land use planning decision has been made to manage the unit as a BLM natural area. Distinct from any planning decisions, under 43 CFR § 8342.1 the BLM has the obligation to minimize impacts to resources, including wilderness characteristics, when designating OHV routes. Similarly, the 2017 Settlement Agreement stipulates that “For purposes of minimizing damage to public lands with BLM-inventoried wilderness characteristics, the BLM will consider the potential damage to any constituent element of wilderness characteristics, including naturalness, outstanding opportunities for solitude, and outstanding opportunities for primitive and unconfined recreation, for each alternative route network.”<sup>23</sup>

The TMA has 17 inventoried LWC units comprising 270,715 acres of BLM lands (see Map 7), within which are 239 miles of evaluated routes; see Table 3-6 showing each LWC unit’s acres and miles of evaluated routes.

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<sup>23</sup> The baseline monitoring report, available on this plan’s ePlanning page, was made publicly available on February 22, 2024. Any routes showing “damage” have been monitored in the interim in accordance with the 2017 Settlement Agreement.

**Table 3-6: LWC Units**

<b>LWC Unit Name</b>	<b>Inventory Date</b>	<b>Acres on BLM Lands</b>	<b>Miles of Evaluated Routes in LWC Unit</b>
Block Mountain LWC	12/1/2011	9,178	6
Cedar Mountain LWC	12/1/1999	14,979	0.1
Devils Canyon LWC	2/18/2021	12,246	19
Jones Bench LWC	12/1/2007	605	1
Limestone Cliffs LWC	12/1/1999	23,865	19
Limestone Cliffs Ext LWC	12/1/2007	2,046	3
Lost Springs Wash LWC	12/1/2007	4,904	9
Mexican Mountain LWC	12/1/1999	36,751	45
Muddy Creek-Crack Canyon LWC	4/12/2021	27,671	24
Mussentuchit Badland LWC	12/1/1999	24,979	13
Never Sweat Wash LWC	4/14/2021	7,185	12
Price River LWC	4/20/2021	7,921	10
Rock Canyon LWC	2/28/2021	18,067	9
San Rafael Reef LWC	4/20/2021	27,813	29
Sid's Draw LWC	12/1/2011	13,160	1
Sids Mountain LWC	12/1/1999	20,661	22
Upper Muddy Creek LWC	2/26/2021	18,684	17

BLM natural areas are LWC inventory units determined to possess lands with wilderness characteristics where BLM has decided, in an RMP decision, to manage to protect, preserve, and maintain their inventoried wilderness characteristics. Because BLM natural areas are a discretionary management category resulting from an RMP decision, they differ from Wilderness areas designated per the Wilderness Act, and WSAs established under the authority of Section 603 of the FLPMA. Likewise, BLM natural areas differ from Outstanding Natural Areas, which are a congressional designation.

BLM natural areas in the TMA are managed for wilderness characteristics per the 2008 RMPs. The 2008 RMPs both explain BLM natural areas as follows:

In future references, lands managed in the Approved RMP as non-WSA lands with wilderness characteristics will be referred to as BLM natural areas. This change does not represent a new designation or a new decision. Rather, BLM wants to recognize these discretionary decisions with a better, simpler reference. Wilderness Areas and Wilderness Study Areas are formal designations that are managed in a prescribed manner. To avoid confusing these official designations with discretionary agency decisions, BLM has chosen a new reference to distinguish between formal designations (e.g., Wilderness Areas) and a discretionary management category (BLM natural areas). According to the Approved RMP, BLM natural areas will be managed to protect, preserve, and maintain values of primitive recreation, the appearance of naturalness and solitude. (BLM 2008e, page 36; BLM 2008g, page 32)

The 2008 RMPs identified four BLM natural areas<sup>24</sup> consisting of 79,652 acres within the TMA (see Map 7). Within these BLM natural areas are a total of 47 miles of evaluated primitive routes (see Table 3-7). In

<sup>24</sup> On March 12, 2019, Public Law 116-9, the John D. Dingell Act, established: 1) Red's Canyon Wilderness Area over the majority of Hondu Country BLM natural area, 2) Little Ocean Draw, Little Wild Horse Canyon, Horse Valley, and Muddy Creek Wilderness Areas over the majority of Muddy Creek-Crack Canyon BLM natural area, 3)

the context of BLM natural areas, a primitive route is a transportation linear feature that does *not* meet the Wilderness Inventory Road definition (i.e., has not been constructed or improved, and maintained by mechanical means to ensure relatively regular and continuous use for its intended purpose).

**Table 3-7: BLM Natural Areas in the TMA**

BLM Natural Area Name	Acres on BLM Lands	Miles of Evaluated Primitive Routes
Hondu Country	20,102	1
Jones Bench <sup>25</sup>	2,542	0.5
Mexican Mountain	4,184	12
Muddy Creek-Crack Canyon	52,824	34

Both the 2008 Price RMP and the 2008 Richfield RMP limit OHV use within BLM natural areas to designated routes. In the PFO portion of the TMA, routes currently designated for OHV use, including those within natural areas, were all designated for OHV use in the 2003 San Rafael Route Designation Plan. The Jones Bench natural area within the 2008 Richfield RMP is located within the Sevier County portion of the TMA. Prior to the 2008 Richfield RMP, Jones Bench was open to cross-country travel. The 2008 Richfield RMP determined that the routes designated within Jones Bench natural area are few in number and that OHV use of the routes would result in minimal impacts and be consistent with BLM's decision to protect, preserve, and maintain values of primitive recreation, the appearance of naturalness and solitude in the natural area.

Continued OHV use, including incidental use such as passing, parking, and staging, and associated maintenance (see Appendix H) within BLM natural areas and LWC units, has the potential to contribute to degradation or loss of wilderness characteristics resulting from travel-related impacts such as vehicle noise, vehicle tracks, creation or expansion of dispersed camp sites, resource damage from route proliferation, widening, or braiding, and other human impacts. OHV use can impact naturalness by perpetuating surface disturbance of routes and associated erosion and spreading noxious weeds. OHV use may also increase wildlife habitat disturbance and mortality. OHV use produces localized and transient visual and auditory effects that may lead to diminished outstanding opportunities to experience solitude and/or primitive and unconfined recreation.

Human impacts to wilderness characteristics can occur near travel routes from dispersed camping, human waste, litter and trash dumping, hazardous fluid leaks, woodcutting, target shooting, vandalism, wildfires, etc., resulting in impacts to naturalness and supplemental values such as cultural sites, scenery, wildlife, geology, paleontology, or scientific values.

In remote, arid desert regions like the TMA, OHV routes within LWC units can provide crucial access for experiencing and enjoying wilderness characteristics. The travel network within the TMA provides important public access to trailheads and river put-ins or take-outs in support (e.g., transporting gear) of

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Big Wild Horse Mesa over the majority of Wild Horse Mesa BLM natural area, 4) San Rafael Reef Wilderness Area over the majority of San Rafael Reef BLM natural area, and 5) Mexican Mountain Wilderness Area over a portion of the Mexican Mountain BLM natural area. Inventoried routes within the designated Wilderness Areas that did not meet the definition of a "permanent road" under BLM Manual 6340, Management of BLM Wilderness, were removed from consideration for OHV designation. Roads excluded from the Wilderness Area boundaries (whether by Wilderness Area boundary or cherry-stem) but contained within the BLM natural area boundaries are considered in this section.

<sup>25</sup> While Jones Bench BLM natural area is less than 5,000 acres and as such would not qualify as having wilderness characteristics, it qualifies because it is contiguous to Capitol Reef National Park, which is managed for wilderness characteristics.

non-motorized activities such as equestrian riding or river running and other activities within LWC units. The same can be said for authorized livestock grazing and scientific research.

The BLM prioritizes active route reclamation as defined in the Implementation Guide, Appendix H, within LWC and BLM natural areas where resource concerns exist. BLM is actively pursuing grant funding and partnerships to minimize impacts to wilderness character within LWC.

### **3.3.2.2 Environmental Effects Analysis**

When creating the alternative route networks, the BLM evaluated LWC and BLM natural area resources and avoided or minimized effects at a route specific level considering the goal of the alternative and using resource-, route-, and alternative-appropriate measures including but not limited to closure (avoidance) and the minimization measures described in the Implementation Guide, Appendix H. When BLM identified disproportionally large OHV impacts to LWC or natural areas or unresolved conflicts, the BLM prioritized closure regardless of alternative. For open and limited routes, BLM would implement measures from Appendix H to monitor and minimize impacts.

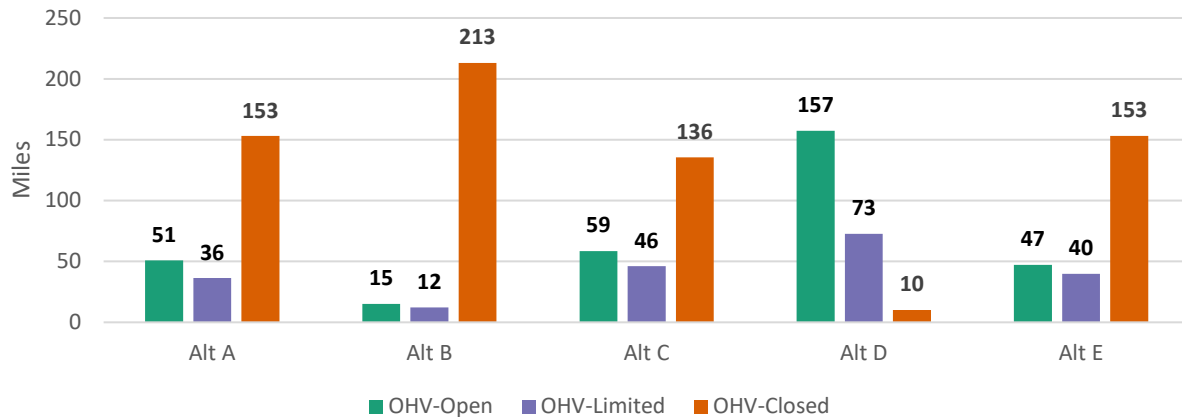
Figure 3-1 through Figure 3-5, Table 3-8, and Table 3-9 inform the effects analysis for LWC units and BLM natural areas. They present the miles of routes within LWC units and BLM natural areas for each alternative. Analysis does not include inventoried routes within Congressionally Designated Wilderness as motorized and mechanized use is prohibited use under the Wilderness Act and therefore routes cannot be designated under any route network alternative in the TMP process.

Route closures, through OHV-Closed designations and associated implementation actions such as reclamation, could reduce the overall footprint of the route network in affected BLM natural areas and LWC units over time. Reclamation of primitive routes within a LWC unit or BLM natural area would not contribute to an increase in acreage of inventoried wilderness characteristics within the unit because primitive routes were included in the overall acreage calculation during the LWC inventory. However, reclamation of primitive routes would remove the potential for negative impacts tied to OHV use and would produce an overall beneficial effect to wilderness characteristics.

In conformance with 43 CFR § 8342.1, trails shall be located in natural areas only if the authorized officer determines that off-road vehicle use will not adversely affect their natural, esthetic, scenic, or other values for which such areas are established. The BLM has monitored and documented visually apparent unauthorized surface disturbances off routes as well as visually apparent damage points in the San Rafael Swell Travel Management Plan – Baseline Management Report in accordance with the Motor Vehicle Impact Monitoring Protocol. Routes identified to have off-route damage in the Baseline Monitoring Report were considered for closure if the damage was considered an impairment to the wilderness character, was persistent, or could not be effectively reclaimed. TMP implementation actions are designed to prevent adverse impacts to LWC units and BLM natural areas from continued OHV use in each alternative. Implementation actions for OHV-Closed routes or unauthorized impacts could include the placement of closure signs, installation of natural barricades, vertical mulching, reclamation, and monitoring by BLM staff, including BLM law enforcement or contractors. Short-term implementation effects could occur from a temporary loss of solitude from noise and presence of people and vehicles for the duration of the implementing action (e.g., the installation of the sign, or route barrier placement). Temporary impacts to naturalness would occur as long as signs or barriers were present at the closure. However, once closure signs or structures are removed, an overall long-term enhancement of wilderness characteristics would be realized.

Figure 3-1 and Table 3-8 are used to inform effects analysis. They indicate network miles that are *in* LWCs (that is, *not* boundaries). This mileage is used as an indicator of the networks' potential impacts to LWCs.

**Figure 3-1: Miles of Evaluated Routes by Alternative in LWC**



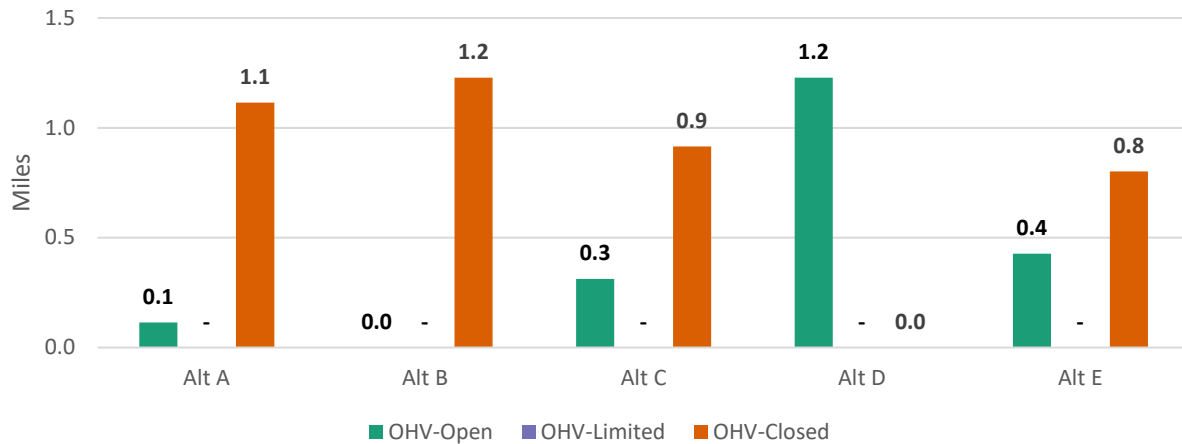
**Table 3-8: Miles of Evaluated Routes by Alternative in Each LWC Unit**

		Alt A	Alt B		Alt C		Alt D		Alt E	
	Designation	Miles	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)
Block Mountain LWC	OHV-Open	2	-	-2	0	-1	5	+4	0	-1
	OHV-Limited	-	-	-	-	-	-	-	-	-
	OHV-Closed	4	6	+2	5	+1	0	-4	5	+1
Cedar Mountain LWC	OHV-Open	-	-	-	0.1	+0.1	0.1	+0.1	-	-
	OHV-Limited	-	-	-	-	-	-	-	-	-
	OHV-Closed	0.1	0.1	-	-	-0.1	-	-0.1	0.1	-
Devils Canyon LWC	OHV-Open	-	0	+0	0	+0	16	+16	0	+0
	OHV-Limited	-	-	-	1	+1	3	+3	1	+1
	OHV-Closed	19	19	-0	18	-1	-	-19	18	-1
Jones Bench LWC	OHV-Open	-	-	-	-	-	0.5	+0.5	-	-
	OHV-Limited	1	-	-1	-	-1	-	-1	-	-1
	OHV-Closed	0.5	1	+1	1	+1	1	+0.5	1	+1
Limestone Cliffs LWC	OHV-Open	6	1	-5	11	+5	17	+11	12	+6
	OHV-Limited	12	-	-12	-	-12	-	-12	-	-12
	OHV-Closed	4	21	+17	11	+7	5	+1	10	+6
Lost Springs Wash LWC	OHV-Open	6	-	-6	-	-6	1	-4	1	-5
	OHV-Limited	-	-	-	7	+7	6	+6	6	+6
	OHV-Closed	3	9	+6	2	-1	1	-2	2	-1
Mexican Mountain LWC	OHV-Open	19	14	-5	29	+10	41	+22	22	+3
	OHV-Limited	-	-	-	3	+3	3	+3	2	+2
	OHV-Closed	25	30	+5	13	-12	1	-24	20	-5

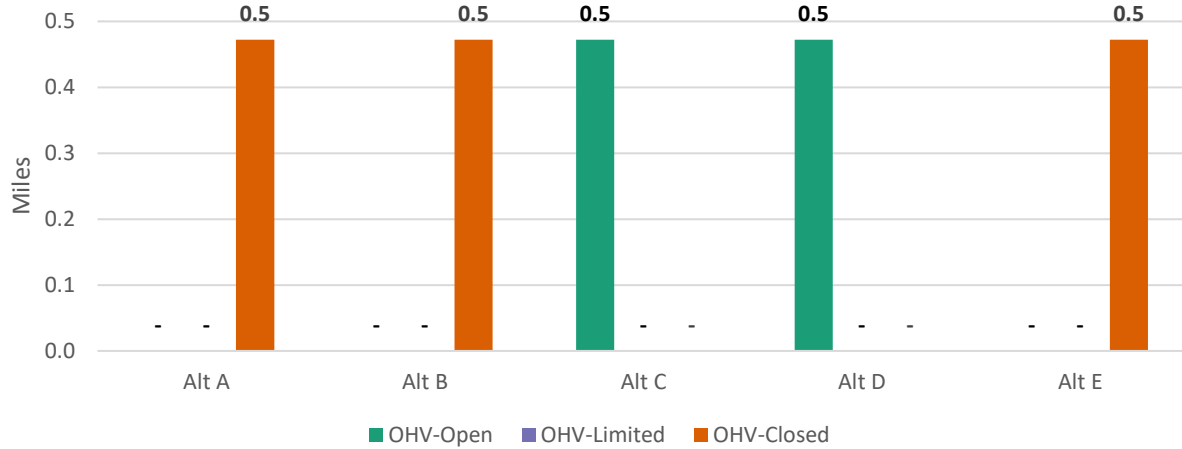
	Designation	Alt A	Alt B		Alt C		Alt D		Alt E	
		Miles	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)
Muddy Creek-Crack Canyon LWC	OHV-Open	0.5	-	-0.5	6	+5	16	+16	0.5	-
	OHV-Limited	-	-	-	-	-	8	+8	-	-
	OHV-Closed	24	24	+0.5	19	-5	-	-24	24	-
Mussentuchit Badland LWC	OHV-Open	3	-	-3	3	+0.5	13	+10	4	+1
	OHV-Limited	-	-	-	-	-	-	-	-	-
	OHV-Closed	10	13	+3	9	-1	0.1	-10	8	-1
Never Sweat Wash LWC	OHV-Open	11	-	-11	-	-11	6	-5	-	-11
	OHV-Limited	-	-	-	5	+5	6	+6	5	+5
	OHV-Closed	2	12	+11	7	+6	1	-1	7	+6
Price River LWC	OHV-Open	-	-	-	4	+4	9	+9	3	+3
	OHV-Limited	-	-	-	2	+2	1	+1	-	-
	OHV-Closed	10	10	-	5	-5	-	-10	7	-3
Rock Canyon LWC	OHV-Open	0.4	-	-0.4	1	+1	9	+9	1	+0.8
	OHV-Limited	1	-	-1	-	-1	-	-1	-	-1
	OHV-Closed	8	9	+2	8	+0.3	0.1	-8	8	+0.4
San Rafael Reef LWC	OHV-Open	1	-	-1	1	-1	13	+11	1	-1
	OHV-Limited	10	-	-10	14	+4	17	+7	14	+4
	OHV-Closed	18	29	+11	15	-3	-	-18	15	-3
Sid's Draw LWC	OHV-Open	1.1	-	-1.1	0.7	+0.3	1.5	+0.4	0.7	-0.4
	OHV-Limited	-	-	-	-	-	-	-	-	-
	OHV-Closed	0.4	1.5	+1.1	0.7	-0.3	-	-0.4	0.8	+0.4
Sids Mountain LWC	OHV-Open	1	-	-1	2	+1	5	+4	1	+0.2
	OHV-Limited	12	12	-	14	+2	17	+4	12	-
	OHV-Closed	9	10	+1	6	-3	1	-8	9	-0.2
Upper Muddy Creek LWC	OHV-Open	0.5	-	-0.5	0.3	-0.2	4	+4	0.3	-0.2
	OHV-Limited	-	-	-	-	-	12	+12	-	-
	OHV-Closed	16	17	+0.5	16	+0.2	0.2	-16	16	-0.2

Indicators of potential OHV use impacts on BLM natural areas within the TMA include the miles of evaluated routes in the BLM natural areas, as shown in Figure 3-2 through Figure 3-5 and Table 3-9.

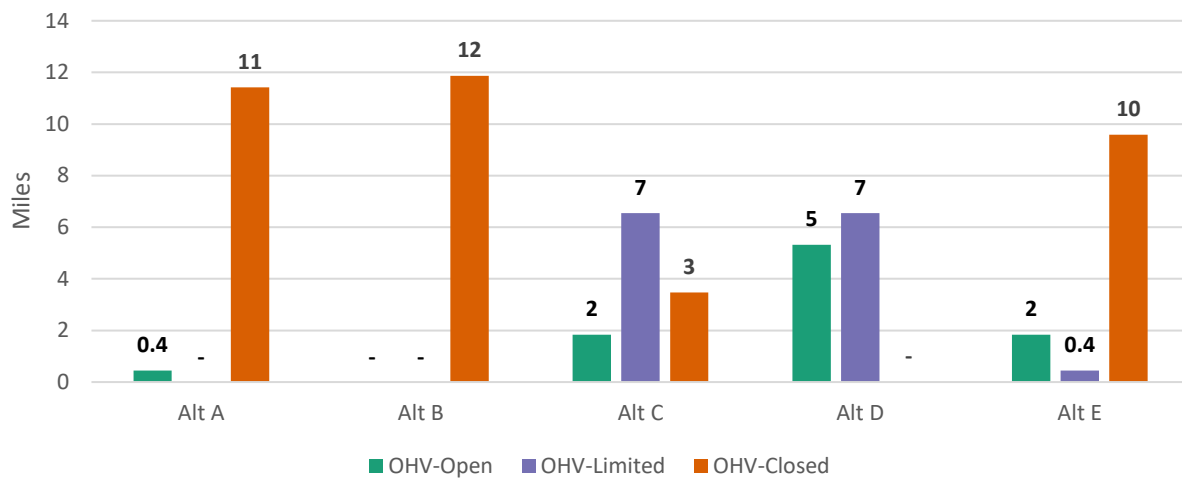
**Figure 3-2: Miles of Evaluated Routes in the Hondu Country Natural Area**

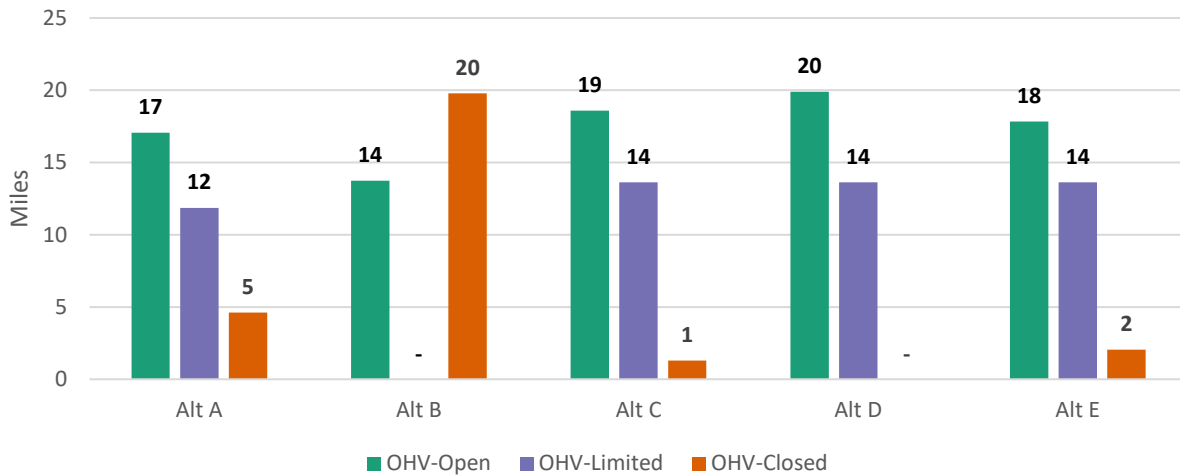


**Figure 3-3: Miles of Evaluated Routes in the Jones Bench Natural Area**



**Figure 3-4: Miles of Evaluated Routes in the Mexican Mountain Natural Area**



**Figure 3-5: Miles of Evaluated Routes in the Muddy Creek-Crack Canyon Natural Area****Table 3-9: Miles of Evaluated Primitive Routes in BLM Natural Areas**

		Alt A	Alt B		Alt C		Alt D		Alt E	
	Designation	Miles	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)
Hondou Country Natural Area	OHV-Open	0.1	-	-0.1	0.3	+0.2	1	+1	0.4	+0.3
	OHV-Limited	-	-	-	-	-	-	-	-	-
	OHV-Closed	1	1	+0.1	0.9	-0.2	-	-1	0.8	-0.3
Jones Bench Natural Area	OHV-Open	-	-	-	0.5	+0.5	0.5	+0.5	-	-
	OHV-Limited	-	-	-	-	-	-	-	-	-
	OHV-Closed	0.5	0.5	-	-	-0.5	-	-0.5	0.5	-
Mexican Mountain Natural Area	OHV-Open	0.4	-	-0.4	2	+1	5	+5	2	+1
	OHV-Limited	-	-	-	7	+7	7	+7	0.4	+0.4
	OHV-Closed	11	12	+0.4	3	-8	-	-11	10	-2
Muddy Creek-Crack Canyon Natural Area	OHV-Open	17	14	-3	19	+2	20	+3	18	+1
	OHV-Limited	12	-	-12	14	+2	14	+2	14	+2
	OHV-Closed	5	20	+15	1	-3	-	-5	2	-3

**3.3.2.2.1 Alternative A (No Action)**

Under Alternative A, there would be no route designation changes in the TMA; 87 miles of evaluated routes in LWC units would remain designated for OHV use and 153 miles would remain closed to OHV use. Concerning BLM natural areas, OHV use would continue to be available on designated routes. In the Hondou Country Natural Area, 9% (0.1 miles) of the evaluated primitive routes would remain available for OHV; in the Jones Bench Natural Area, all 0.5 miles are closed; in the Mexican Mountain Natural Area, 4% (0.4 miles) of evaluated primitive routes are designated for OHV use; and in the Muddy Creek-Crack Canyon Natural Area, 88% (29 miles) of the evaluated primitive routes would remain available for OHV use. Under this alternative, impacts to naturalness and outstanding opportunities for solitude and primitive and unconfined recreation within LWC units and BLM natural areas would reflect a continuation of current designations.

### 3.3.2.2.2 Alternative B (Resource Protection Emphasis)

Alternative B would designate a total of 27 miles of routes for OHV use within LWC units in the TMA; twelve of the LWC units would have no routes designated for OHV use. Please reference Figure 3-1 and Table 3-8 to identify the difference in magnitude of Alternative B. The routes within LWC units proposed for OHV use under this alternative include 12 miles limited to Class 1 e-bikes in Sids Mountain LWC and 14 miles designated as OHV-Open in Mexican Mountain LWC; these routes are now managed as Wilderness Boundary roads, or they are short parking spurs off the maintained road. The IDT has determined that OHV use on these routes has not historically and likely will not cause damage to the wilderness characteristics in these units and that the routes serve a critical purpose and need for connectivity or recreation experience. Overall, Alternative B's potential for OHV use-related impacts to wilderness characteristics in LWC units would be lower than each of the other alternatives.

Alternative B would designate a total of 14 miles in the Muddy Creek-Crack Canyon Natural Area. This alternative would not designate any routes for OHV use in the Hondu Country, Jones Bench, or Mexican Mountain natural areas. Please reference Figure 3-2 through Figure 3-5 and Table 3-9 to identify the difference in magnitude of Alternative B. The routes within the Muddy Creek-Crack Canyon Natural Area proposed for OHV-Open in this alternative are all routes currently managed as Wilderness Boundary Roads. Alternative B proposes to designate for OHV use only evaluated routes that meet the criteria of a Wilderness Inventory Road. Within BLM natural areas, Alternative B would not designate any evaluated primitive routes as available for OHV use; the IDT has determined that these routes would not cause damage to the wilderness characteristics in these units, and that they serve a critical purpose and need for connectivity or recreation experience. Overall, Alternative B's potential for OHV use-related impacts to wilderness characteristics in BLM natural areas would be lower than each of the other alternatives. Negative impacts to the wilderness characteristics of these BLM natural areas from OHV use is not expected. The BLM has documented visually apparent unauthorized surface disturbances off routes as well as visually apparent damage to public lands resources caused by motorized vehicle use within BLM natural areas in the San Rafael Swell Travel Management Plan – Baseline Monitoring Report. During the baseline monitoring, five routes being considered as open to OHV use in Alternative B were documented as having impacts from adjacent off-route travel. This damage has been assessed and a reclamation plan is currently being developed with implementation planned in 2025. Although the PFO has experienced fluctuations in visitation FO-wide, based on professional judgement and review of the BLM recreation visitation reporting database, the BLM believes that the character and use of the routes proposed to be designated OHV-Open and OHV-Limited under this alternative have not significantly changed since they were inventoried and that continued use of the routes will be consistent with protecting, preserving, and maintaining wilderness characteristics.

### 3.3.2.2.3 Alternative C (Multiple Use Emphasis)

Alternative C would reduce designated route mileage in 6 LWC units and increase designated route mileage in 10 LWC units. It would designate a total of 105 miles of evaluated routes for OHV use within LWC units in the TMA. The largest increases in miles of routes designated for OHV use in LWC units would be in Mexican Mountain LWC (+13 miles), Price River LWC (+6 miles), Muddy Creek-Crack Canyon LWC (+5 miles), Sids Mountain LWC (+3 miles), and San Rafael Reef LWC (+3 miles). The largest decreases in miles of routes designated for OHV use in LWC units would be in Limestone Cliffs LWC (-7 miles) and Never Sweat Wash LWC (-6 miles). Please reference Figure 3-1 and Table 3-8 to identify the difference in magnitude of Alternative C.

Alternative C would increase the miles of primitive routes and wilderness inventoried roads designated for OHV use in each of the BLM natural areas, including +0.2 miles in the Hondu Country Natural Area, +0.5 miles in the Jones Bench Natural Area, +8 miles in the Mexican Mountain Natural Area, and +3 miles in the Muddy Creek-Crack Canyon Natural Area. Please reference Figure 3-2 through Figure 3-5 and Table 3-9 to identify the difference in magnitude of Alternative C for each BLM natural area.

#### **3.3.2.2.4 Alternative D (Access Emphasis)**

Alternative D would reduce the designated route mileage in 2 LWC units and increase designated route mileage in 14 LWC units. It would designate a total of 230 miles of evaluated routes for OHV use within LWC units in the TMA. Alternative D would see a reduction in miles of routes designated for OHV use in the Limestone Cliffs LWC unit (-1 mile) and the Jones Bench LWC unit (-0.5 miles). The largest increases in miles of routes designated for OHV use in LWC units would be in the Mexican Mountain LWC (+24 miles), Muddy Creek-Crack Canyon LWC (+24 miles), Devils Canyon LWC (+19 miles), San Rafael Reef LWC (+18 miles), Upper Muddy Creek LWC (+16 miles), Mussentuchit Badland LWC (+10 miles), and Price River LWC (+10 miles). Please reference Figure 3-1 and Table 3-8 to identify the difference in magnitude of Alternative D.

Alternative D would increase the miles of primitive routes and wilderness inventoried roads designated for OHV use in each of the BLM natural areas, including +1 mile in the Hondu Country Natural Area, +0.5 miles in the Jones Bench Natural Area, +11 miles in the Mexican Mountain Natural Area, and +5 miles in the Muddy Creek-Crack Canyon Natural Area. Please reference Figure 3-2 through Figure 3-5 and Table 3-9 to identify the difference in magnitude of Alternative D for each BLM natural area.

#### **3.3.2.2.5 Alternative E (Public Comment Adjusted Alternative)**

Alternative E would reduce designated route mileage in 6 LWC units and increase designated route mileage in 8 LWC units. It would designate a total of 87 miles of evaluated routes for OHV use within LWC units in the TMA. The largest decreases in miles of routes designated for OHV use in LWC units would be in Limestone Cliffs LWC (-6 miles) and Never Sweat Wash LWC (-6 miles). The largest increases in miles of routes designated for OHV use in LWC units would be in Mexican Mountain LWC (+5 miles), Price River LWC (+3 miles), and San Rafael Reef LWC (+3 miles). Please reference Figure 3-1 and Table 3-8 to identify the difference in magnitude of Alternative E.

With the exception of the Jones Bench Natural Area, Alternative E would increase the miles of primitive routes and wilderness inventoried roads designated for OHV use in each of the BLM natural areas, including +0.3 miles in the Hondu Country Natural Area, +2 miles in the Mexican Mountain Natural Area, and +3 miles in the Muddy Creek-Crack Canyon Natural Area. There would be no change in the Jones Bench Natural Area. Please reference Figure 3-2 through Figure 3-5 and Table 3-9 to identify the difference in magnitude of Alternative E for each BLM natural area.

#### **3.3.2.2.6 Cumulative Effects**

Cumulative travel-related actions include vehicle noise, vehicle tracks, creation or expansion of dispersed camp sites, resource damage from route proliferation, widening, braiding, and spreading noxious weeds. These impacts have the potential to contribute to degradation or loss of wilderness characteristics. Alternatives A-E contribute the effects listed previously in Environmental Effects Analysis.

The analysis area is the LWC unit and BLM natural area boundaries overlapping the travel management area, including portions of those BLM natural areas extending beyond the TMA, totaling approximately 350,367 acres. The wilderness characteristics of these LWC units and BLM natural areas are generally not affected by activities outside their boundaries. The past, present, and reasonably foreseeable actions, plans, or projects in the TMA, other than the evaluated routes listed in 3.1.9.1 and livestock grazing, are outside of the cumulative impact analysis area and therefore do not contribute to impacts in the LWC units or BLM natural areas.

The TMA's LWC units and BLM natural areas were inventoried and determined to possess wilderness characteristics despite the existence, use, and maintenance of existing travel routes. Ongoing OHV activities may degrade wilderness characteristics through impacts to naturalness, outstanding opportunities for solitude or primitive recreation, and supplemental values. Fugitive dust and noise from

OHV travel along existing routes within LWC units and BLM natural areas may have affected experiences for those seeking outstanding primitive recreation and solitude.

Under Alternative A, there would be no route designation changes in the TMA. Impacts from ongoing OHV use would be a continuation of current conditions, and an overall incremental change to LWC units, BLM natural areas and their wilderness characteristics within the analysis area is not anticipated.

Overall, Alternative B would result in the most reduction of OHV impacts to LWC units and BLM natural areas because of the closure of 246 miles of evaluated routes in these units. Alternative B allows continued OHV use of 27 miles of routes within LWC units and 14 miles of routes within BLM natural areas. However, it should be noted these routes were present at the time the BLM natural areas were inventoried, and it was determined at that time that the presence of these routes did not impact the wilderness character, and current IDT members still believe that determination is appropriate. The routes proposed as designated for OHV use in Alternative B currently serve as wilderness boundary roads and are not new impacts on the ground. When the LWC units and natural areas that are now managed as designated wilderness, or now border wilderness are re-inventoried, their boundaries would be adjusted to match the wilderness boundaries. If the LWC units are contiguous with wilderness their boundaries will adjoin; if the LWC units are not contiguous with wilderness, they will follow the same boundary roads as the wilderness unit, so the wilderness and LWC boundaries will not overlap one another. None of the routes proposed to be open to OHV use in Alternative B would bisect any LWC unit and risk that unit no longer meeting size criteria. If the routes proposed to be OHV-Open or OHV-Limited do not serve as wilderness boundaries they serve as critical access to popular points of interest, such as Cottonwood Wash and Dylan Wall, and provide parking areas that would be signed and formalized to reduce off-route travel. If this alternative is selected, it would not change the current LWC inventories as closing/opening routes would not immediately change the landscape, because the routes already exist. However, over time, future use, maintenance, and natural reclamation could lead to updated LWC inventories producing different results either adding or reducing the amount of acreage. This Alternative would minimize impacts to wilderness characteristics as it does close 213 miles of evaluated routes within LWC units and 33 miles of evaluated routes within BLM natural areas.

Overall, Alternative C would result in more miles of routes designated for OHV use in LWC units (+17 miles) and BLM natural areas (+13 miles). In some units such as Block Mountain, Jones Bench, Limestone Cliffs, Lost Springs Wash, Never Sweat Wash, and Rock Canyon, there would be a reduction in miles available for OHV use. The remaining units would see an increase in mileage designated for OHV use. All units were found to contain wilderness characteristics despite the existence of these inventoried routes. No new construction of routes or surface disturbing activities are proposed, just the designation and maintenance of these existing routes. If this alternative is selected, it would not change the current LWC inventories, as closing/opening a route would not immediately change the landscape. However, over time future use and maintenance could lead to updated LWC inventories producing different results either creating more or reducing the amount of acreage. This alternative would minimize impacts to wilderness characteristics as it would close 136 miles of evaluated routes within LWC units and 5 miles of evaluated routes within BLM natural areas.

Overall, Alternative D would result in the most miles of routes designated for OHV use in LWC units (230 miles) and BLM natural areas (47 miles). All units were found to contain wilderness characteristics despite the existence of the majority of these primitive routes. No new construction of routes or surface disturbing activities are proposed, just the designation and maintenance of the primitive routes. If this alternative is selected, it would not change the current LWC inventories, as closing/opening a route would not immediately change the landscape. However, over time future use and maintenance could lead to updated LWC inventories producing different results either creating more or reducing the amount of acreage. This alternative would minimize impacts to wilderness characteristics as it would close 10 miles of evaluated routes within LWC units.

Overall, Alternative E would result in 87 miles of routes designated for OHV use in LWC units and 35 miles of routes in BLM natural areas. In some units such as Block Mountain, Jones Bench, Limestone Cliffs, Lost Springs Wash, Never Sweat Wash, and Rock Canyon, there would be a reduction in miles available for OHV use. The remaining units would see an increase in mileage designated for OHV use. All units were found to contain wilderness characteristics despite the existence of these inventoried routes. No new construction of routes or surface disturbing activities are proposed, just the designation and maintenance of these existing routes. If this alternative is selected, it would not change the current LWC inventories, as closing/opening a route would not immediately change the landscape. However, over time future use and maintenance could lead to updated LWC inventories producing different results either creating more or reducing the amount of acreage. This alternative would minimize impacts to wilderness characteristics as it would close 153 miles of evaluated routes within LWC units and 13 miles of evaluated routes within BLM natural areas.

All action alternatives include operation and management activities that would minimize impacts and user conflicts as disclosed in the TMP Implementation Guide (Appendix H). These include signing, maintenance, enforcement, monitoring, and reclamation protocols that are designed to offset ongoing route-related impacts to BLM natural areas and LWC units. Per 43 CFR § 8342.1, each alternative would not adversely affect the natural, aesthetic, scenic, or other values for which the natural areas were established.

### **3.3.3 NATIVE VEGETATION**

*Issue 3: How would the travel network alternatives impact native vegetation communities?*

The analysis area for native vegetation is the TMA, because it is the smallest unit which shows all impacts to native vegetation within the TMA. The temporal scope of analysis is 20 years (see Section 3.1.1). The analysis area includes the San Rafael Swell Recreation Area in which the Dingell Act calls for the protection, conservation, and enhancement of its natural and ecological resources. For analysis of potential impacts to special status plants, see Section 3.3.6.

#### **3.3.3.1 Affected Environment**

Evaluators used a vegetation type dataset as well as specialist knowledge of the area to identify route-specific vegetation resource issues during the route evaluation process. Therefore, vegetation impacts are estimated using miles of routes as a comparison across alternatives. The BLM considered using the number of routes for this analysis to improve comparability with the soils and weeds section. However, the miles of routes within a vegetation community seemed to best describe the effects. See Table 2-1 for the total mileage of route designations under each alternative. Map 4 in the 2008 Price RMP (BLM 2008e) and Map 3-03 in the 2008 Richfield Proposed RMP/EIS (BLM 2008f) show vegetation communities for the PFO and RFO areas and depict the TMA as having primarily pinyon-juniper, sagebrush, and desert brush communities. Table 3-10, below, shows the primary vegetation communities and the miles of evaluated routes within each in the TMA.

**Table 3-10: Primary Vegetation Communities within the TMA**

<b>Vegetation Community</b>	<b>BLM Acres</b>	<b>Miles of Evaluated Routes Within the Vegetation Community</b>	<b>Description<sup>26</sup></b>
Inter-Mountain Basins Mixed Salt Desert Scrub	470,477	926	Includes open-canopied shrublands of basins, alluvial slopes, and plains. Vegetation is characterized by open to moderately dense shrubland composed of <i>Atriplex</i> species. The herbaceous layer may be sparse or moderately dense, dominated by perennial graminoids. Forbs are also present.
Barren—Rock / Sand / Clay	190,616	211	Typically has less than one percent vegetative cover. If vegetation is present, it is widely spaced. The surface is sand, rock, exposed subsoil, or salt-affected soils. Subcategories include salt flats; sand dunes; mud flats; beaches; bare exposed rock; quarries, strip mines, gravel pits, and borrow pits; river wash; oil wasteland; mixed barren lands; and other barren land.
Colorado Plateau Pinyon-Juniper Woodland	116,478	136	Occur on warm, dry areas of mountain slopes, mesas, plateaus, and ridges. Soils supporting this vegetation type vary from stony, cobbly, gravelly sandy loams to clay loam or clay. Understory layers vary and may be dominated by shrubs, graminoids, or be absent.
Inter-Mountain Basins Big Sagebrush Shrubland	198,972	396	Typically occurs in broad basins between mountain ranges, plains, and foothills. Soils are deep, well-drained, and non-saline. Dominated by <i>Artemisia tridentata</i> ssp. <i>tridentata</i> . Perennial herbaceous components contribute less than 25% vegetative cover.

OHV-Closed designations protect native vegetation. OHV-Open or OHV-Limited designations perpetuate effects to native vegetation. Route use and surface disturbances from off-route vehicle travel (e.g., passing or parking, particularly along minimally maintained routes, which tend to be narrower) can crush plants, compact the soil the plants grow in, and contaminate the soil. Travel network implementation activities (Appendix H) that may cause vegetation loss include installing new signs, road maintenance consistent with the character and class of the route, and route reclamation.

As soil compaction increases, the soil's ability to support vegetation diminishes because loss of porosity inhibits root penetration from accessing nutrients and water and reduces the infiltration and availability of water. Thus, the size and abundance of vegetation may be reduced. Additionally, the above-ground portions of plants may be crushed or damaged, leading to reduced photosynthetic capacity and poor reproduction; fugitive dust from OHV use can also disrupt photosynthetic processes, suppressing plant growth and vigor (Ouren et al. 2007). A study by Von der Lippe and Kowarik (2007) showed that dispersal of seeds, particularly those of non-native species, by vehicles may accelerate plant invasions and induce changes in biodiversity patterns. Along travel routes cover of native species can decrease, giving more opportunity for weeds to flourish (Assaeed et al. 2019). Overall, habitat alteration and deterioration lead to competition for water, space, and nutrients, which results in decreased reproductive success for native vegetation.

Cumulative actions found in the analysis area are listed in Section 3.2. Besides travel management activities these include grazing activities, utilities and water development, wildlife management activities, recreation, and mineral development. All these cumulative actions have the potential to crush, dust, or damage native vegetation, introduce or spread weeds that would compete with the native vegetation, and some actions include surface disturbance which would remove native vegetation.

<sup>26</sup> Source: NSE 2024

### 3.3.3.2 Environmental Effects Analysis

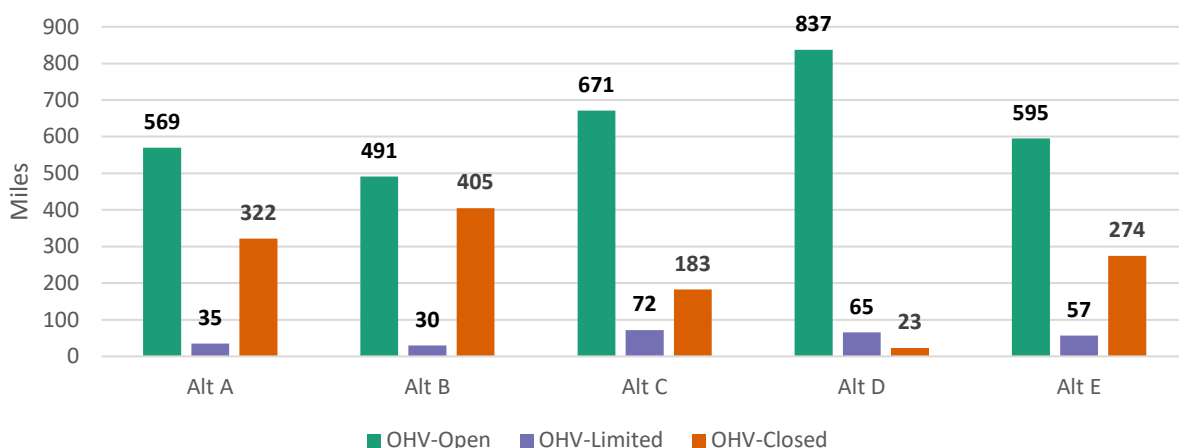
When creating the alternative route networks, the BLM evaluated native vegetation resources and avoided or minimized effects at a route specific level considering the goal of the alternative and using resource-, route-, and alternative-appropriate measures including but not limited to closure (avoidance) and the minimization measures described in the Implementation Guide, Appendix H. When BLM identified disproportionately large OHV impacts to native vegetation or unresolved conflicts, the BLM prioritized closure regardless of alternative. For open and limited routes, BLM would implement measures from Appendix H to monitor and minimize impacts.

The following assumptions and methodologies were applied in this analysis of potential effects on native vegetation from the alternative designations:

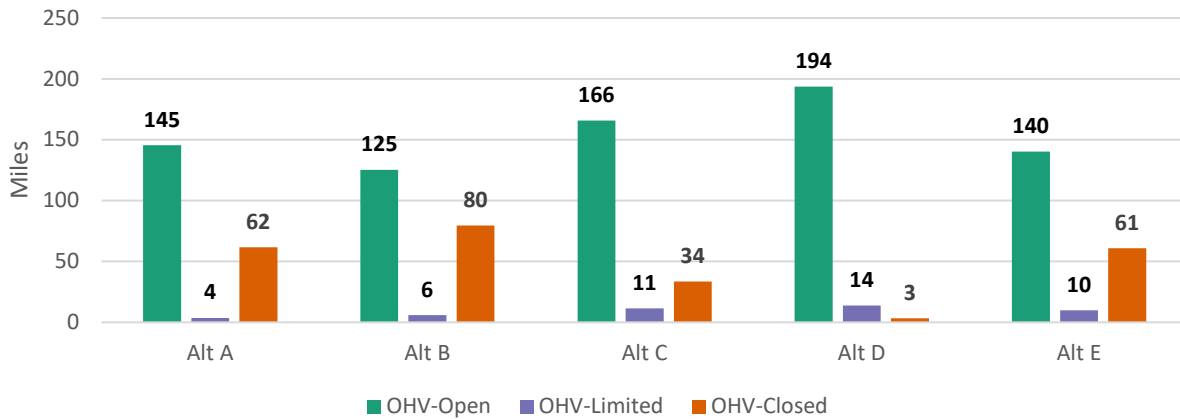
- Routes identified in the analysis are within the vegetation type.
- OHV-Closed designations would eliminate OHV effects to native vegetation from those routes.
- Maintenance under this TMP will be appropriate to the class of road to ensure navigability for designated routes without changing the character, function, or recreation experience the route provides.

Miles of routes in the TMA's primary vegetation communities are used as indicators of potential OHV route designation impacts (see Figure 3-6 through Figure 3-9). The nature of the effects will be the same across alternatives; however, the magnitude and location of the routes will vary. The magnitude can be judged using Figure 3-6 through Figure 3-9 and Table 3-11. The location of the effects can be judged using Map 2 through Map 6. OHV use of travel routes can remove, crush, or dust native vegetation. TMP implementation activities (Appendix H) that could remove, crush, or dust native vegetation include route maintenance (e.g., surface and ditch blading.), reclamation (e.g., raking), and sign placement (e.g., digging post holes). These effects would occur in very short time frames (estimated to be one to four days' worth of work, though it may be longer for longer routes). TMP implementation activities (Appendix H) that could minimize impacts to native vegetation include maintenance of existing routes to provide route drainage and avoid users driving around washed-out areas, enforcement of the route network, monitoring of route effects, and reclamation of routes as appropriate. These effects would occur over longer timeframes.

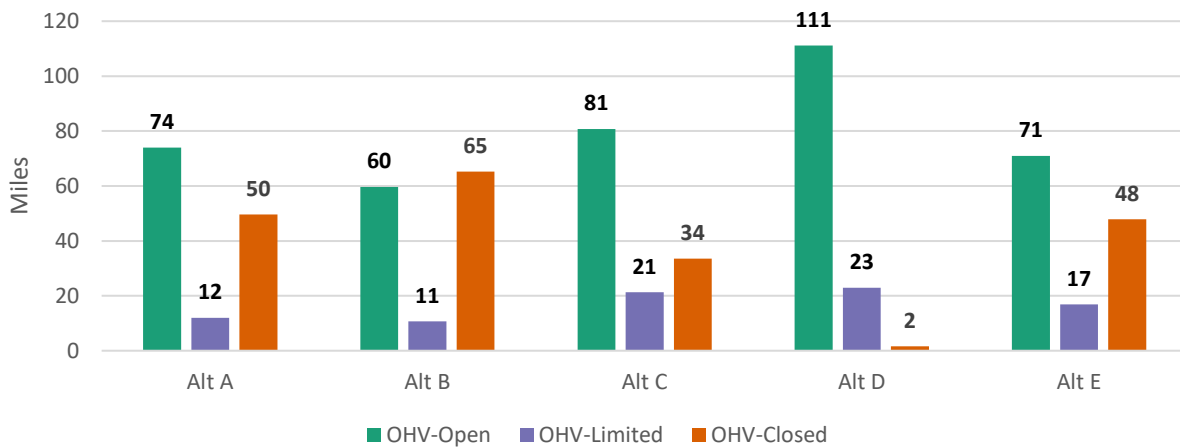
**Figure 3-6: Miles of Evaluated Routes in Inter-Mountain Basins Salt Desert Scrub**



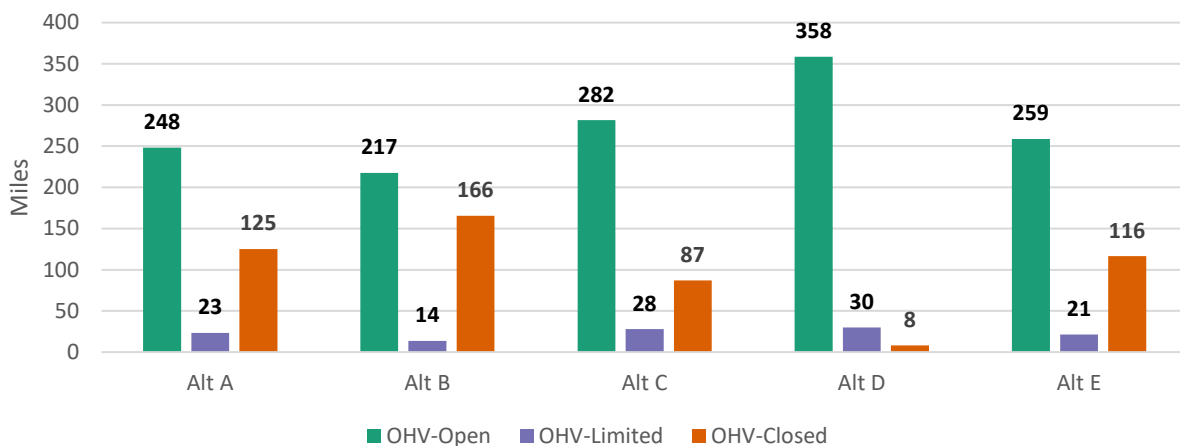
**Figure 3-7: Miles of Evaluated Routes in Barren Rock/Sand/Clay**



**Figure 3-8: Miles of Evaluated Routes in Colorado Plateau Pinyon-Juniper Woodland**



**Figure 3-9: Miles of Evaluated Routes in Inter-Mountain Basins Big Sagebrush Shrubland**



**Table 3-11: Miles of Evaluated Routes in Primary Native Vegetation Communities**

	Designation	Alt. A	Alt. B		Alt. C		Alt. D		Alt. E	
		Miles	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)
Inter-Mountain Basins Mixed Salt Desert Scrub	OHV-Open	569	491	-78	671	+101	837	+268	595	+25
	OHV-Limited	35	30	-5	72	+37	65	+30	57	+22
	OHV-Closed	322	405	+84	183	-138	23	-298	274	-47
Barren-Rock/Sand/Clay	OHV-Open	145	125	-20	166	+20	194	+48	140	-5
	OHV-Limited	4	6	+2	11	+8	14	+10	10	+6
	OHV-Closed	62	80	+18	34	-28	3	-58	61	-1
Colorado Plateau Pinyon-Juniper Woodland	OHV-Open	74	60	-14	81	+7	111	+37	71	-3
	OHV-Limited	12	11	-1	21	+9	23	+11	17	+5
	OHV-Closed	50	65	+16	34	-16	2	-48	48	-2
Inter-Mountain Basins Big Sagebrush Shrubland	OHV-Open	248	217	-31	282	+34	358	+110	259	+11
	OHV-Limited	23	14	-10	28	+5	30	+7	21	-2
	OHV-Closed	125	166	+40	87	-38	8	-117	116	-9

**3.3.3.2.1 Alternative A (No Action)**

Under Alternative A, there would be no route designation changes in the TMA. Of the evaluated routes in Inter-Mountain Basins Mixed Salt Desert Scrub vegetation communities, 65% (604 miles) would remain designated for OHV use. In Barren—Rock/Sand/Clay areas, 71% (149 miles) of the evaluated routes would remain designated for OHV use. In Colorado Plateau Pinyon-Juniper Woodlands, 63% (86 miles) of the evaluated routes would remain designated for OHV use. In Inter-Mountain Basins Big Sagebrush Shrublands communities, 69% (271 miles) of the evaluated routes would remain designated for OHV use. In the TMA's primary vegetation communities Alternative A would extend the potential for OHV use-related impacts such as crushing and dusting plants. Impacts to native vegetation from ongoing OHV use (e.g., vegetation damage or loss, etc.) would reflect continuation of current designations.

**3.3.3.2.2 Alternative B (Resource Protection Emphasis)**

Alternative B would reduce miles of evaluated routes designated for OHV use, including a 14% (83-mile) reduction in Inter-Mountain Basins Mixed Salt Desert Scrub, an 12% (18-mile) reduction in Barren—Rock/Sand/Clay, a 17% (15-mile) reduction in Colorado Plateau Pinyon-Juniper Woodland, and a 15% (40-mile) reduction in Inter-Mountain Basins Big Sagebrush Shrubland. Under Alternative B, the same types of effects on native vegetation from OHV use noted above would be expected to occur on those routes designated OHV-Open or OHV-Limited; however, this alternative would have the overall lowest potential of any alternative for OHV-related impacts on native vegetation.

**3.3.3.2.3 Alternative C (Multiple Use Emphasis)**

In each of the TMA's primary vegetation communities, Alternative C would increase miles of evaluated routes designated for OHV use, including a 23% (139-mile) increase in Inter-Mountain Basins Mixed Salt Desert Scrub, a 19% (28-mile) increase in Barren—Rock/Sand/Clay, a 19% (16-mile) increase in Colorado Plateau Pinyon-Juniper Woodland, and a 14% (39-mile) increase in Inter-Mountain Basins Big Sagebrush Shrubland. Under Alternative C, the same types of effects on native vegetation from OHV use noted above would be expected to occur on those routes designated OHV-Open or OHV-Limited.

Overall, this alternative would have higher potential than Alternatives A, B and E but lower potential than Alternative D for OHV-related impacts on native vegetation.

#### **3.3.3.2.4 Alternative D (Access Emphasis)**

In each of the TMA's primary vegetation communities, Alternative D would increase miles of evaluated routes designated for OHV use, including a 49% (298-mile) increase in Inter-Mountain Basins Mixed Salt Desert Scrub, a 40% (59-mile) increase in Barren—Rock/Sand/Clay, a 56% (48-mile) increase in Colorado Plateau Pinyon-Juniper Woodland, and a 43% (117-mile) increase in Inter-Mountain Basins Big Sagebrush Shrubland. Under Alternative D, the same types of effects on native vegetation from OHV use noted above would be expected to occur on those routes designated OHV-Open or OHV-Limited. Overall, this alternative would have the highest potential of any alternative for OHV-related impacts on native vegetation.

#### **3.3.3.2.5 Alternative E (Public Comment Adjusted Alternative)**

In each of the TMA's primary vegetation communities, Alternative E would increase miles of evaluated routes designated for OHV use, including an 8% (48-mile) increase in Inter-Mountain Basins Mixed Salt Desert Scrub, a 1-mile increase in Barren—Rock/Sand/Clay, a 2-mile increase in Colorado Plateau Pinyon-Juniper Woodland, and a 3% (9-mile) increase in Inter-Mountain Basins Big Sagebrush Shrubland. Under Alternative E the same types of effects on native vegetation from OHV use noted above would be expected to occur on those routes designated OHV-Open or OHV-Limited. Overall, this alternative would have higher potential than Alternatives A and B but lower potential than Alternatives C and D for OHV-related impacts on native vegetation.

#### **3.3.3.2.6 Cumulative Effects**

For the reasons previously explained in section 3.3.3.1, miles of routes are used as an indicator of effects in the analysis area. Access to and management of the cumulative actions identified in the affected environment are route dependent. Therefore, Table 2-1, which lists the miles of routes by alternative, supplemented by Table 3-11 and Figures 3-6 through 3-6, which lists the miles of routes by vegetation type, indicates the potential for change in cumulative effects to vegetation resources. Note however that some of the cumulative actions may authorize travel on OHV-closed routes. Cumulative effects from past, present, and reasonably foreseeable projects and activities on native vegetation includes soil compaction, vegetation removal, crushing, or dusting as described in the affected environment.

Under Alternative A, there would be no route designation changes in the TMA. Impacts from ongoing OHV use would reflect a continuation of current conditions, and an overall incremental change to native vegetation within the cumulative effects analysis area is not anticipated.

Alternatives B-E would add varying amounts of routes designated for public OHV use (OHV-Open or OHV-Limited) that would perpetuate route existence but would not create any new routes. These alternatives would also close varying amounts of routes to public OHV use, though it would not affect any authorized use. Any reclamation associated with a route closure would eventually lessen and potentially remove vegetation-related impacts.

### **3.3.4 RECREATION**

*Issue 4: How would the travel network alternatives impact OHV recreation opportunities and experiences in Emery, Sevier, and Grand counties?*

The OHV-recreation analysis area is all BLM-managed routes within the three counties which are affected by this plan and the Labyrinth/Gemini Bridges TMP, Canyon Rims (Indian Creek) TMP and San Rafael Desert TMP: Sevier County, Emery County, and Grand County. This analysis area was chosen

because the recent OHV route designation changes in these areas accumulate with the San Rafael Swell TMP alternatives to define the route networks available for motorized use, which also affects the motorized experience. The temporal scope of analysis is 20 years (see Section 3.1.1).

*Issue 5: How would the travel network alternatives impact non-motorized recreation access and experiences in the TMA?*

The analysis area for non-motorized recreation was the TMA because the distances covered by non-motorized recreation are small and the TMA covers the unique recreational setting, opportunities, experiences, and demands offered by the San Rafael Swell. The analysis timeframe is 20 years.

### 3.3.4.1 Affected Environment

The 2,161 miles of evaluated routes in the TMA largely originated from mining, ranching, and recreation-related activities. Extrapolating from traffic counters, the BLM estimates there were 372,000 recreation visits in the TMA in 2023.

To better consider the potential impacts of the alternative networks on recreation within the TMA, the BLM grouped all evaluated routes into 22 travel network geographic areas based on recreation destinations (see Map 8), desired recreation experiences, and/or network connectivity. The route network geographic areas are described in detail in Appendix C and are shown in Map 8 and Table 3-12. That table also provides an overview of each route network geographic area's visitation and notes if it is located in an ERMA, SRMA, or RMZ, as these locations ultimately guide their management objectives. Data is collected via electromagnetic counters placed underground along roads. Most data is from 2023, although some counters more recently installed reflect data from 2023-2024 (representing 12 consecutive months) or from part of 2024, no fewer than six months. The former are marked with one asterisk and the latter with two.

**Table 3-12: Route Network Geographic Area Visitation**

Route Network Geographic Area Name	SRMA/ERMA/, San Rafael Swell Recreation Area Status	Miles of Route in Current Network (Alt A Open/Ltd.)	2023 Visitors <sup>1</sup>
Box Flat/Big Hole, Buckmaster/Tidwell Draw	SRMA, San Rafael Swell Recreation Area	3, 39	3,248
Buckhorn/Wedge	Buckhorn/Wedge RMZ, San Rafael Swell Recreation Area	73	68,741
Black Dragon/Mexican Mountain ( <i>Mexican Mountain Road only</i> )	Buckhorn/Wedge RMZ, SRMA, San Rafael Swell Recreation Area	40	16,673
Moore Cutoff/Dutch Flats*	SRMA	44	18,628
Cliff Dwellers/Home Base**	SRMA, San Rafael Swell Recreation Area	37	920
Sids Mountain/Wikiup, Swaseys Cabin/Reds Canyon (OHV trail network)	Sinbad-Swaseys Cabin-Sids Mountain RMZ, San Rafael Swell Recreation Area	139, 75	13,889
Copper Globe/Lone Tree (east)	Sinbad/Swaseys Cabin/Sids Mountain RMZ, SRMA, ERMA, San Rafael Swell Recreation Area	87	5,599
Mussentuchit/Last Chance, Copper Globe/Lone Tree (west)	SRMA, ERMA, San Rafael Swell Recreation Area	88	5,516
Behind the Reef/Temple Mountain (south)	Temple Mountain RMZ, San Rafael Swell Recreation Area	87, 56	51,780
Temple Mountain (north)	San Rafael Swell Recreation Area	(56)	5,234
Surrounding Goblin Valley	Temple Mountain RMZ, San Rafael Swell Recreation Area	30	48,289 <sup>2</sup>
Front of the Reef	SRMA, San Rafael Swell Recreation Area	40	12,764
Cow Flats/Cedar Mountain, North Jurassic/Flat Top (partial)	ERMA; Cleveland-Lloyd SRMA (excluding Jurassic National Monument)	19, 50	4,496
Humbug/Chimney Rock, Grassy Trails, Mounds (partial for all three)	ERMA	100, 21, 38	1,953
Coal Cliffs	SRMA	57	No data

Route Network Geographic Area Name	SRMA/ERMA/, San Rafael Swell Recreation Area Status	Miles of Route in Current Network (Alt A Open/Ltd.)	2023 Visitors <sup>1</sup>
Fremont Junction	ERMA	34	No data
Limestone Cliffs	ERMA	19	No data
<b>Other (backcountry locations):</b> Buckhorn/Wedge (western), Box Flat/Big Hole (western)	San Rafael Swell Recreation Area	—	5,231
<b>Other (general access via Exit 131):</b> Sids Mountain/Wikiup, Black Dragon/Mexican Mountain, Buckhorn/Wedge	Sinbad/Swaseys Cabin/Sids Mountain RMZ, San Rafael Swell Recreation Area	—	26,151
<b>Total</b>		<b>1,173</b>	<b>289,110</b>

<sup>1</sup> BLM placed more than 40 vehicle counters to gather this data. Placement was chosen based on road conditions, visitor impacts, and amount of visitation. The BLM's confidence in the visitor use estimates are high where there are one or few access roads, and low where there are many access roads. Hence, almost all network areas are encompassed by the counter system, but not all have specific numbers. These "remainders" are combined in the first column as "Other" and bolded.

<sup>2</sup>Excludes traffic en route to Goblin Valley State Park. This therefore excludes hikers to Wild Horse Canyon/Window and individuals driving the Molly's Castle trail. It also includes visitors who were dispersed camping in the canyons just west of the park as these canyons were part of the PFO at the time the counters were placed. The BLM is in the process of changing counter locations to reflect visitation on BLM land but does not yet have adequate data to estimate. However, the actual numbers are not anticipated to be significantly lower than the listed estimate as Little Wild Horse Canyon alone typically draws around 20,000 hikers annually.

While the BLM estimates a minimum visitation of 272,000 to the TMA for 2023, the current counter locations are not comprehensive. For example, these counters could be counting the same visitors multiple times. In addition, gaps exist in particular for the Mounds, Grassy Trails, and Humbug/Chimney Rock network areas as well as the western desert areas of Coal Cliffs, Copper Globe/Lone Tree, Mussentuchit/Last Chance, Limestone Cliffs, and Fremont Junction. Consequently, while the BLM considers visitation in analysis, it is not the driving force in evaluating the quality of opportunities or recreational demand, especially from local communities who frequent areas outside of the special management units.

### 3.3.4.1.1 San Rafael Swell Special Recreation Management Area

The 938,500-acre San Rafael SRMA lies almost entirely within the TMA and comprises the majority of its acreage. Thirteen of the PFO's route network geographic areas entirely overlap, and three partially overlap, the SRMA or its RMZs (see Table 3-13 and Map 10). Approximately 1,674 miles of evaluated routes are in the SRMA. Extrapolating from traffic counters, the BLM estimates 245,00090% of recreation visits to the TMA in 2023 were in the SRMA.

Within the SRMA, the 2008 Price RMP identified three Recreation Management Zones (RMZs) where recreation opportunities associated with scenic overlooks, natural features, and historic and cultural sites have resulted in high visitation and unique management priorities and needs for decades. In total, the BLM estimates that 64% of recreation visits in the TMA were to these three RMZs and are concentrated on 23% of evaluated routes (see Table 3-13). Route designations in the RMZs would have proportionately high visitor impacts and therefore could meaningfully affect all elements of the recreation setting (discussed later in this section). Route designations outside the RMZs would have proportionately low visitor impacts and therefore impacts to the recreation setting would be largely physical. Route limitations may attain RMP objectives of reducing user conflict in the RMZs where there is also a high density of users. In recreation, user conflict is commonly defined as goal interference as a result of another user's behavior, whether or not the users have the same goal; it is specifically based in direct or indirect contacts (Jacob and Schreyer 1980). Conflict can occur within a user group (intra-group conflict) or between user groups (inter-group conflict).

From site-specific vehicle counters and recreation specialists' knowledge of the area, the BLM estimates that the five most popular recreation opportunities within the RMZs (Wedge Overlook, Buckhorn Draw, Wild Horse Road, Temple Wash/Temple Mountain, and Little Wild Horse Canyon) account for 41.5% of recreation visits to the TMA. Based on this prominent concentration of recreational use, even though the

alternatives would change the route networks available for motorized recreation opportunities, they would not meaningfully change visitation to these popular areas nor would they result in visitor use being distributed differently across the TMA. The alternative route networks' greatest potential impacts to visitor use patterns in these popular recreation areas are to dispersed camping, which are discussed as relevant in each alternative's analysis.

**Table 3-13: RMZ Visitation in the San Rafael Swell SRMA**

<b>Name</b>	<b>Primary Recreation [Most Popular Recreation Opportunities (% Recreation Visits)]</b>	<b>Miles of Evaluated Routes (% of TMA Evaluated Route Mileage)</b>	<b>2023 Visits (% of TMA Visits)</b>
Buckhorn/Wedge	Sightseeing, cultural/historic site viewing, dispersed and developed camping, hiking, rock climbing, horseback riding.  [Wedge Overlook camping and sightseeing (12%)  Buckhorn Draw and along Mexican Mountain Road camping, hiking, cultural/historic site viewing, and vehicle touring (12%)]	85 (4%)	90,000 (24%)
Sinbad/Swaseys Cabin/Sids Mountain <sup>1</sup>	OHV touring (including many trails that have come area destinations due to advertising in guidebooks and online communities), dispersed camping, hiking/backpacking, horseback riding, historic/cultural site viewing	270 (13%)	61,000 (16%)
Temple Mountain	Dispersed and developed camping, OHV touring (including several destination trails), cultural/historic site viewing, hiking, canyoneering, rock climbing, horseback riding, sightseeing  [Wild Horse Road dispersed camping <sup>27</sup> , hiking and sightseeing (8%)  Temple Wash/Temple Mountain camping, sightseeing, off-roading, and cultural/historic site viewing (6%)  Little Wild Horse Canyon hiking (3.5%)]	125 (6%)	90,400 (24%)
<sup>1</sup> The routes most frequently cited in the scoping comments are within the Sinbad/Swaseys Cabin/Sids Mountain RMZ. These routes are open in all alternatives.			

### 3.3.4.1.2 San Rafael Swell Recreation Area

The 217,000-acre San Rafael Swell Recreation Area overlaps almost entirely the TMA, overlaps wholly the San Rafael Swell SRMA, and overlaps portions of the RMZs including the five most popular recreation opportunities. Ten of the PFO's route network geographic areas overlap the Recreation Area (see Table 3-12, Map 8, and Map 11). Approximately 616 miles of evaluated routes are in the Recreation

<sup>27</sup> The dispersed camping area is now part of Goblin Valley State Park as directed by the Dingell Act Goblin Valley Conveyance (Section 1251).

Area. Extrapolating from traffic counters, the BLM estimates 286,400 (77%) recreation visits to the TMA in 2023 were in the Recreation Area.

#### **3.3.4.1.3 Cleveland-Lloyd Dinosaur Quarry Special Recreation Management Area**

The 800-acre Cleveland-Lloyd Dinosaur Quarry SRMA lies entirely within the TMA. One of the PFO's route network geographic areas overlaps the SRMA (see Table 3-12 and Map 8). This SRMA contains the Jurassic National Monument (see Map 11), the Cleveland-Lloyd Dinosaur Quarry, and their Visitor Center. Approximately 10 miles of evaluated routes are within the SRMA. Extrapolating visitor use data from the Jurassic National Monument and one traffic counter in the area, the BLM estimates 6,360 (2%) of recreation visits to the TMA in 2023 were in the SRMA. Visitor distribution is not likely to change across the SRMA under the various alternatives because of the proportionally high concentration of visitor use at the Quarry's and Monument's Visitor Center, and the unique recreation opportunities within them.

#### **3.3.4.1.4 Extensive Recreation Management Areas**

Per both 2008 RMPs, portions of each field office which are not part of a SRMA (Map 10) are part of an Extensive Recreation Management Area (ERMA). Both RFO's route network geographic areas overlap the RFO ERMA. Three of PFO's route network geographic areas entirely overlap, and four partially overlap, the PFO ERMA (see Table 3-12 and Map 8). Approximately 477 miles of evaluated routes are in the ERMA. Extrapolating from traffic counters, the BLM estimates 30,640 (8%) recreation visits to the TMA specifically targeting the ERMA in 2023. It is also important to note that every visitor to the TMA that accesses the SRMAs must also visit and travel through the ERMA.

#### **3.3.4.1.5 Special Recreation Permits**

The BLM administers 82 active SRPs within the TMA for a range of commercial activities and events. Twenty-two of these are for vehicle-based tours, activities, and events (including photography workshops, educational tours, dirt bike instruction, and OHV gatherings). Seventeen are for hunting and allow use of all designated routes. The remaining 43 are for non-motorized activities including mountain biking, gravel biking/bikepacking, wilderness therapy, canyoneering, rock climbing, and backpacking. The remaining 43 also account for the greatest share of reported SRP use (over 80%).

#### **3.3.4.1.6 Motorized Recreation**

Research indicates that the most common motivators of motorized recreationists are family togetherness and spending time with others; discovering new places and skills; experiencing excitement; and experiencing nature and the outdoors. Other motorized motivators include personal skill development, physical and technical challenges, finding solitude, and getting to know an area (Frey et al. 2018, Smith et al. 2021). Common companion activities including camping, hiking, viewing scenery, and recreational shooting (Smith et al. 2021, Kil et al. 2012). Within Utah specifically, frequent riders may be more likely to ride for challenge, excitement, and personal achievement, and thus benefit from having a variety of routes and especially difficulties (Smith and Burr 2011). Scoping comments for this plan frequently referenced family togetherness across generations, dispersed camping access, and the need for accessibility in motor vehicle use. The BLM also routinely observes both casual and organized group rides. The Richfield RMP does not have a group size limit for non-SRP activities; the PFO RMP (Appendix R-9) requires groups of more than 24 to contact the BLM to determine if an SRP is required, but the BLM generally does not require small (<15 vehicles), non-commercial day rides to obtain a permit.

As summarized in the Cumulative Impacts Scenario (Section 3.2), OHV recreation opportunities in the TMA are largely dispersed. The 2,161 miles of evaluated routes in the TMA are associated with many dispersed trailheads, campsites, camping areas, and staging areas (see the route reports). The BLM has

managed the dispersed trailheads, campsites, camping areas, backcountry airstrips, and staging areas as needed to address resource impacts and user safety. Developed recreation opportunities associated with the evaluated routes include four fee campgrounds and several signed staging areas. Specific trail system opportunities in the TMA include the following:

- Behind the Reef's Waterfall Trail single track route,
- Twin Knolls Trail System is predominantly used by motorcyclists and features easy to challenging obstacles. While motorcyclists can ride on any route designated for OHV use, single track routes afford a different recreation opportunity by not sharing the trail with larger vehicles. The BLM estimates there to be 5,000-7,000 recreation visits to these trails each year (1.5-2% of all TMA visits).
- Buckmaster Trail System (south of Smith Camp and east of the San Rafael River) including 50 miles of evaluated routes.
- The northern portion of the TMA (Mounds, etc.), which the 2008 Price RMP determined would be better managed for OHV recreational use compared to managing Never Sweat and Lost Springs Wash LWC units for their wilderness characteristics (BLM 2008e, p. 36).

Popular OHV or OHV-adjacent recreation opportunities for which the BLM manages and monitors are driving for pleasure and sightseeing, wildlife viewing, OHV trail riding (on four-wheel drive routes), developed and dispersed camping, cultural site viewing and heritage tourism, hunting<sup>28</sup>, backcountry aviation, and mountain and gravel biking<sup>29</sup>. Other activities which are facilitated by motorized recreation include geocaching, Christmas tree cutting, and pine nut harvesting. These purposes were noted for each route during route evaluations (see the route reports). The geographic extent of a route network and the density of routes within a network has the potential to provide recreational benefits through recreational riding or access to other activities.

Per 43 CFR 8342.2(c), "Areas and trails shall be located to minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands, and to ensure the compatibility of such uses with existing conditions in populated areas, taking into account noise and other factors." The BLM considered the following factors when determining how and where to minimize conflicts pursuant to this regulation:

- If the conflict could be mitigated by vehicle limitation rather than closure (determined in individual route reports)
- RMP management objectives within the ERMA and SRMA, including any area-specific references in the RMP
- Existing uses and conditions (e.g. a trail which would need to be widened to accommodate a full-size vehicle)
- Recreation opportunity availability and scarcity

OHV literature indicates that user conflict occurs within the OHV group both between and within sub-groups (motorcycles, ATVs/UTVs, and full-sized vehicles). ATV/UTV and motorcyclists riders view the other's behavior as somewhat problematic, albeit with a low intensity of conflict. Drivers of full-sized vehicles perceive the most conflict and experience decreased enjoyment as a result, while ATV/UTV riders generally have the highest tolerance for both fellow riders and other sub-groups (Albritton et al. 2009). Conflict within groups is highest among drivers of full-sized vehicles but still lower than inter-

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<sup>28</sup> While hunting is technically non-motorized, its dispersed nature means that the geographic extent and connectivity of routes can impact hunting access and opportunities compared to trailhead-based non-motorized activities. Per BLM research conducted in conjunction with the preparation of the trails report, backpacking-supported hiking is not a well-established recreational use to the extent that it is in many larger wilderness areas.

<sup>29</sup> All bikes may ride on any designated route in the PFO per REC-8 in the Price 2008 RMP.

group conflict. Designating a route or route network limited to specific vehicle types creates a clear route network with structured management and operations.

#### 3.3.4.1.7 Non-motorized Recreation

The RMP designated recreation opportunity spectrum (ROS) classes across the TMA to define the desired experience. Semi-primitive non-motorized areas should have little or no evidence of human presence (such as the route itself, adjacent campsites, trash and noise). Primitive areas should have no evidence of human presence. Of the 1.1 million acres in the TMA, 24% are in the semi-primitive non-motorized recreation opportunity spectrum (ROS) class and 10% are in the primitive ROS class. The geographic extent of a route network and the density of routes within a network can negatively impact non-motorized recreation character and user experience. OHV-Open and OHV-Limited routes can have localized and transient impacts through their continued use. Evidence of motorized use also includes sign installation, camping, trail widening and braiding (to avoid travel hazards), trash dumping or accumulation, and human waste. The level of maintenance assigned to a given route could increase its prominence on the landscape if it entails a deviation from the existing condition, while reclamation would decrease evidence of a given route (see Sections O and H.7 in Appendix H).

In the TMA, the BLM monitors and manages for the following popular non-motorized recreational activities: hiking and backpacking, scenic overlook appreciation, horseback riding, rock climbing<sup>30</sup>, technical canyoneering<sup>31</sup>, river-running, cultural site viewing and heritage tourism, and dispersed camping. While non-motorized recreation is not route-restricted and may occur everywhere, the majority of non-motorized recreation opportunities are within designated wilderness (see Sections D.2, D.3, and D.8 in Appendix D). Non-motorized use is sparse outside of the San Rafael Swell SRMA and predominantly occurs at isolated recreation sites such as Family Butte, the San Rafael Knob, and Mussentuchit Dunes.

The BLM has identified<sup>32</sup> approximately 54 non-motorized trailheads in the San Rafael Swell Recreation Area which access designated wilderness. The BLM has signed one extremely popular route (the Little Wild Horse-Bell Canyon loop) along the trail itself including maintained cairns. Only a quarter of the other trailheads are signed by the agency in a way that identifies them as either an official trail or a wilderness access point, but none are signed past the trailhead. In designated wilderness, no routes are constructed, and no backcountry recreation features (bolts, handlines, campsites, etc.) are built or maintained by the BLM.

Table 3-14 summarizes the non-motorized recreation opportunities in each route network geographic area<sup>33</sup> common to all alternatives based on recreation infrastructure, field reports, public communications, the respective RMPs, and BLM 2021c. It also includes relative use levels and other pertinent notes based on traffic counters, on-the-ground impacts, and prevalence in guidebooks and online communities (e.g., frequency of trip reports). Access routes are not discussed because these roads are open in all alternatives. Sites with high use and greater infrastructure offer lower levels of solitude and remoteness. Sites with low use and lesser infrastructure offer higher levels of solitude and remoteness.

<sup>30</sup> The Dingell Act (Section 1232(b)) specifies that the designation of wilderness does not prohibit rock climbing nor any associated placement, use, and maintenance of fixed anchors.

<sup>31</sup> Technical canyoneering utilizes the same types of anchors as those used in climbing, so the BLM interprets the allowance of fixed anchors by the Dingell Act (Section 1232(b)) to also include rappelling slot canyons.

<sup>32</sup> The Dingell Act (Section 1222(i)) required the BLM to prepare a study of non-motorized trail opportunities, which was completed in 2021 (BLM 2021c, Attachment I).

<sup>33</sup> The following route network geographic areas do not have any well-established non-motorized recreation opportunities: Mounds, Grassy Trails, Humbug/Chimney Rock, North Jurassic/Flat Top outside of Jurassic National Monument, Fremont Junction, and Limestone Cliffs.

**Table 3-14: Non-motorized Recreation Opportunities by Route Network Geographic Area**

Route Network Geographic Area	Non-motorized Opportunities	Visitation Summary
Behind the Reef	Hiking, canyoneering, backpacking, horseback riding, seasonal river running	High use: many quality experiences with BLM trailheads and information, corresponds to Temple Mountain RMZ
Black Dragon/Mexican Mountain	Hiking, canyoneering, backpacking, horseback riding, seasonal river running, cultural site viewing <sup>1</sup>	High use: many quality experiences with BLM trailheads and information; Buckhorn/Wedge RMZ
Box Flat/Big Hole	Hiking, backpacking, horseback riding	Low use: very remote with no facilities or trails
Buckhorn/Wedge	Hiking, backpacking, horseback riding, seasonal river running, rock climbing	Very high: many quality opportunities, Buckhorn/Wedge RMZ
Buckmaster/Tidwell Draw	Hiking, rock climbing, backpacking	Moderate: remote, no facilities
Cliff Dwellers/Home Base	Canyoneering, hiking	Low: predominantly canyoneering with some hiking
Coal Cliffs	Rock climbing, cultural site viewing <sup>1</sup>	Climbing is very low use and primitive. Cultural site viewing is moderate us at approximately 4,600 visitors/year <sup>1</sup>
Copper Globe/Lone Tree	Hiking, seasonal river running	Low: remote, no facilities; upper Muddy Creek can be floated for a few weeks out of year, but this section is not as popular as the lower section (the Chute) due to the lengthy shuttle. Hiking opportunities throughout the Muddy Creek drainage, in and out of wilderness.
Cow Flats/Cedar Mountain	Rock climbing (single area)	Moderate in Triassic bouldering area (~10 acres), low to none elsewhere. Trailhead for a stock trail dropping into Humbug Canyon is located in this network area.
Front of the Reef	Hiking, canyoneering, rock climbing	High: Many diverse and quality opportunities
Grassy Trails	Seasonal river running, hiking	Low: flat water section of the Price River (spanning all four network areas) can be run for several weeks out of the year but is not as popular as the upper and lower whitewater sections, and information is not readily available. No facilities for putting in and taking out. Hiking opportunities throughout Price River drainage, though no established trails.
Humbug/Chimney Rock	Seasonal river running, hiking	Low: Price River (see description in Grassy Trails); hiking in Humbug Canyon. Route downcanyon is on a trail that is currently open to motorized use. Upcanyon hiking requires route finding.
Moore Cutoff/Dutch Flats	Cultural site viewing <sup>1</sup>	Unknown: While not broadly advertised in resources, local knowledge is extensive and shared within the community.
Mounds	Seasonal river running, hiking	Low: Price River (see description in Grassy Trails)

Route Network Geographic Area	Non-motorized Opportunities	Visitation Summary
Mussentuchit/Last Chance	Hiking, canyoneering	Low: very remote, no facilities.
North Jurassic/Flat Top	Seasonal river running, hiking	Low: Price River (see description in Grassy Trails)
Sids Mountain/Wikiup	Hiking, backpacking, horseback riding, cultural site viewing <sup>1</sup> , canyoneering, seasonal floating	Moderate: Many diverse opportunities but user impacts are generally low.
Surrounding Goblin Valley	Hiking, horseback riding, canyoneering	Very high: several popular hikes and near state park
Swaseys Cabin/Reds Canyon	Rock climbing, hiking, cultural/historic site viewing <sup>1</sup>	Low to moderate: Remote, no BLM developments but user-established areas
Temple Mountain	Hiking, canyoneering, cultural/historic site viewing <sup>1</sup>	Moderate: Very high use area, but nearby trails are not especially frequented compared to those in the Surrounding Goblin Valley route network geographic area.
<sup>1</sup> Cultural/historic site viewing refer specifically to instances where there are published, well-documented sites more than a quarter-mile from the nearest road.		

Non-motorized visitors recreate to bond with family and friends and escape social and physical pressures. Hikers place greater value on appreciation of scenery, tranquility, solitude, and opportunities to learn than motorized users, and as a result are more sensitive to crowding than OHV users; they are also more sensitive to motorists than vice versa (Allen 2019, Kil et al. 2012, Shilling et al. 2012). In the San Rafael Swell, many of the most scenic trails are in wilderness where motorized use is not allowed, but motorized use near those trails could still negatively impact non-motorized recreationists' experience, e.g., through the noise of vehicle engines, dust generated, loud noises at overlooks above trails, or aircraft overflights, including drones.

Intra-group crowding sensitivity increases when users are made consciously aware of another party in their user group, e.g., due to disruptive behavior, and wilderness recreationists become more sensitive to user encounters the further away they are from the trailhead (Allen 2019). Currently, inter-group conflict is not expected to exist in the TMA because (1) the number of sites where multiple forms of non-motorized recreation occur are limited (BLM 2021c, Attachment I) and (2) non-hiker user-groups are small enough that the probability of encounters in those areas is low.

The following user group-specific nuances are also applied to this analysis:

- Traditional climbers (the style most common in the San Rafael Swell SRMA) are motivated by being in a natural wilderness setting, pursuing a wilderness experience, being in remote and quiet settings, and seeing views from high off the ground (Ansari 2008). Those along Buckhorn Draw are unlikely to be sensitive to the routine traffic in that area, as they forfeit solitude in favor of convenient access. Climbers throughout the rest of the TMA—including those in the Front of the Reef, Swaseys Cabin/Reds Canyon, and Black Dragon/Mexican Mountain route network geographic areas—are likely to have a very high level of sensitivity to crowding, motorized use, and human impacts on the landscape, observed from the ground or from their target viewpoint.
- Equestrian users value scenery, exploring nature and discovering new things, and are bothered by hearing other users and seeing off-road use or evidence thereof (Schneider et al. 2013). Unlike other users, equestrians' conflicts are not just a social issue as they can create unsafe conditions for the rider, other members of the party, and other recreationists. In the San Rafael Swell SRMA, users have independently established a range of routes which meet these criteria, many of which are entirely or mostly in wilderness. Some routes involve riding on roads to form a loop; in all such instances, the road in question is open in all alternatives.

- While there has been very little research on canyoneers' preferences and interests, most respondents to one user group survey tended to be sensitive to environmental issues and crowding; competent in backcountry skills such as reading topographic maps; and familiar with backcountry regulations (Coalition of American Canyoneers 2015).

#### **3.3.4.1.8 Mountain Biking**

Per the Price 2008 RMP's REC-8 decision mountain biking is allowed on all routes within the PFO which are designated for OHV use. Long-distance bicycling and bikepacking are emerging recreational uses in the Swell with gravel bikers enjoying long trips on gravel roads and mountain bikers venturing onto OHV trails such as the Behind-the-Reef trail and the trails around Coal Wash and Eagle Canyon. Mountain bikers are also sensitive to conflict with other trail users, both motorized and non-motorized, though presumably to a lesser degree than non-motorized users owing to the popularity of riding on dirt and gravel roads (Chavez et al. 1993, Campbell et al. 2021). The PFO has observed that electric bikes (e-bikes) are also growing in popularity in the TMA and elsewhere in the field office, although specific data has not been collected. Mountain biking is analyzed here under motorized recreation as e-bike routes are subject to travel management decisions in the same way as motorized routes. However, consideration in each analysis is given to the impacts of other kinds of motorized use on mountain bikers' experience (e.g., limiting a route to e-bikes). The only purpose-built mountain biking trail in the TMA is the Good Water Rim trail, and the only trails proposed to be limited to e-bikes in one or more alternatives are in the Good Water Rim area at the Wedge.

#### **3.3.4.1.9 Dispersed Camping**

The evaluated routes provide access to dispersed camping. Under Price 2008 RMP REC-3 and Richfield 2008 RMP REC-1, dispersed camping is allowed throughout both field offices with the exception that vehicle camping in the San Rafael Swell SRMA Recreation Management Zones is only allowed in designated sites (BLM 2008e, REC-53). In an area as vast and remote as the TMA, camping is often necessary to enjoy long days of recreation. Per BLM route evaluations, approximately half of the evaluated routes access dispersed campsites at one or more places along the route's length. During high-use seasons, dispersed camping access supports recreation access, especially in areas with a high volume of visitation or a high density of opportunities. Lack thereof can result in crowding and user conflict and moves the BLM further away from targeted RMZ outcomes like escaping social pressures and providing for motorized dispersed camping. Several high-use areas in the TMA, like the Wedge, Wikiup and Temple Mountain areas, receive disproportionate volumes of vehicle-based dispersed camping.

#### **3.3.4.1.10 Cumulative Actions for Motorized Recreation**

Cumulative actions for motorized recreation found in the analysis area are listed in Section 3.2. These include:

- Use of travel routes resulting in dust and noise
- Recreation resulting in waste, trash, vegetation damage, trail widening and braiding, and other physical impacts along trails and at recreation sites
- Recreation resulting in user conflict between and within sub-groups

The acres and miles of the cumulative travel management plans are summarized in Table 3-15.

**Table 3-15: Southern Utah Region-Recent Travel Management Plans**

<b>Travel Management Plan</b>	<b>Travel Management Area (Acres)</b>	<b>Total Miles Analyzed</b>	<b>Miles Designated OHV-Open</b>	<b>Miles Designated OHV-Limited</b>	<b>Miles Designated OHV-Closed</b>
Labyrinth/Gemini Bridges (Moab Field Office) 2023	300,000	1,127	712	98 (97.4 width, 0.6 seasonal)	317
Canyon Rims (Indian Creek) (Moab Field Office) 2021	91,000	274	226	0	46
San Rafael Desert (Price Field Office) 2018	380,000	1,180	702	66 (all width limitations)	414
<b>Totals</b>	<b>771,000 acres</b>	<b>2,581 miles</b>	<b>1,640 miles</b>	<b>164 miles</b>	<b>777 miles</b>

**3.3.4.1.11 Cumulative Actions for Non-motorized Recreation**

Cumulative actions for non-motorized recreation found in the analysis area are listed in Section 3.2. These include:

- Use of travel routes resulting in noise and dust.
- Recreation resulting in intra-group crowding sensitivity

**3.3.4.2 Environmental Effects Analysis: Motorized Recreation**

When creating the alternative route networks, the BLM evaluated motorized recreation opportunities and avoided or minimized effects at a route specific level considering the goal of the alternative and using resource-, route-, and alternative-appropriate measures including but not limited to closure (avoidance) and the minimization measures described in the Implementation Guide, Appendix H. When BLM identified disproportionally large OHV impacts to motorized recreation or unresolved conflicts, the BLM prioritized limitations or closure regardless of alternative. For open and limited routes, BLM would implement measures from Appendix H to monitor and minimize impacts.

**3.3.4.2.1 Common to All Alternatives**

The TMA's most heavily used routes would remain open across alternatives (see Table 3-16). This includes routes in the Sids Mountain/Wickiup and Behind-the-Reef areas which are heavily used by off-riders, the two routes linking Capitol Reef National Park to the Fish Lake National Forest, routes in all wilderness cherry-stems, and most non-motorized trailhead access routes.

**Table 3-16: Summary of Routes Common to All Alternatives**

<b>Route Network Geographic Area</b>	<b>Routes Open to All Alternatives</b>
Behind the Reef	Behind-the-Reef trail (SS4265; SS4264 is width restricted in A-C and Open in D and E), Little Ocean Draw Wilderness cherry-stems/boundaries: Little Wild Horse Canyon (SS4245), Horse Valley (SS4242), SS4237, and SS4238
Black Dragon/Mexican Mountain	All routes within cherry-stems into the Mexican Mountain Wilderness; SS2123 and SS2124 are currently closed but would be open in Alternatives B-E.
Buckhorn/Wedge	West Rim Road (SS3173) and SS3182, which accesses an overlook near North Salt Wash and forms the boundary of the San Rafael Swell Recreation Area

Route Network Geographic Area	Routes Open to All Alternatives
	Good Water Rim Trail, which is limited to e-bikes in all alternatives.
Copper Globe/Lone Tree	The Dike/Horizon Arch Muddy Creek route within the cherry stem (SS5010) Link Flats loop and Reds Canyon Overlook (SS4572-4573)
Fremont Junction	Deer Peak Loop (SS6150, SS6151)
Front of the Reef	Farnsworth/Old Woman Wash Road (SS2535), Ernie Canyon (SS2530), Eardley Canyon (SS2492),
Limestone Cliffs	Upper Cathedral Valley Rd. (SS6002), Last Chance Rd. (SS2003)
Mussentuchit/Last Chance	Lower Last Chance and Muddy Creek Wilderness Boundary Roads: SS5130, SS5389 (extended in C and D), SS5416 (Little Black Mountain Spur, accessing Capitol Reef National Park)
North Jurassic/Flat Top	Jurassic National Monument and Triassic Bouldering Area access
Sids Mountain/Wikiup	Coal Wash, the Eva Conover Trail, Cane Wash, and Devils Racetrack
Surrounding Goblin Valley	Molly's Castle Road (SS4440), SS4371 (boundary between Big Wild Horse Mesa and Middle Wild Horse Mesa wilderness areas)
Swaseys Cabin/Reds Canyon	Eagle Canyon Trail (SS4086), Upper Eagle Canyon Trail (SS4059), Family Butte Road (SS4060), George's Draw Rd (SS4006), Earl's Draw Rd. (SS4484)
Temple Mountain	Temple Mountain loop (SS2582, SS2582, SS2588), "Color Trails" in Twin Knolls network (SS2723, 2724, 2744, motorized single-track in all alternatives)

Table 2-2 indicates impacts on motorized recreation opportunities and experiences by comparing the miles of open, limited, and closed routes under each alternative and by comparing the miles of routes limited by vehicle type. Table 3-17 and Table 3-18 indicate impacts on motorized recreation opportunities and experiences by comparing the miles of routes in each BLM-identified route network geographic area and by comparing the miles of OHV-Limited routes in each BLM-identified route network geographic area. The nature of the effects will be the same across alternatives; however, the magnitude and location of the routes will vary. The magnitude can be judged using Table 2-2, Table 3-17, and Table 3-18. The location of the effects can be judged using Map 2 – Map 6.

**Table 3-17: Miles of Routes by Alternative in Each Route Network Geographic Area**

	Designation	Alt. A	Alt. B		Alt. C		Alt. D		Alt. E	
		Miles	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)
Behind the Reef	OHV-Open	76	73	-3	82	+6	91	+14	79	+3
	OHV-Limited	15	4	-11	16	+1	13	-2	16	+1
	OHV-Closed	13	28	+15	6	-7	1	-12	9	-4
Black Dragon/Mexican Mountain	OHV-Open	54	56	+3	65	+12	77	+23	63	+9
	OHV-Limited	-	-	-	-	-	-	-	-	-
	OHV-Closed	23	20	-3	11	-12	0	-23	14	-9
Box Flat/Big Hole	OHV-Open	37	21	-16	37	+0	50	+13	33	-4
	OHV-Limited	-	-	-	16	+16	15	+15	7	+7
	OHV-Closed	29	45	+16	13	-16	2	-27	28	-1
Buckhorn/Wedge	OHV-Open	68	65	-3	70	+2	77	+9	69	+1
	OHV-Limited	12	12	-	17	+5	20	+8	15	+3
	OHV-Closed	18	21	+3	12	-6	1	-17	14	-4
Buckmaster/Tidwell Draw	OHV-Open	43	31	-12	34	-9	44	+1	32	-11
	OHV-Limited	-	7	+7	11	+11	7	+7	11	+11
	OHV-Closed	11	16	+5	8	-2	2	-9	11	0

		Alt. A	Alt. B		Alt. C		Alt. D		Alt. E	
	Designation	Miles	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)
Cliff Dwellers/Home Base	OHV-Open	25	24	-1	31	+6	44	+20	26	+1
	OHV-Limited	-	-	-	-	-	-	-	-	-
	OHV-Closed	20	21	+1	14	-6	-	-20	19	-1
Coal Cliffs	OHV-Open	47	30	-17	78	+31	125	+78	56	+9
	OHV-Limited	-	16	+16	10	+10	2	+2	2	+2
	OHV-Closed	82	83	+1	42	-41	2	-80	71	-11
Copper Globe/Lone Tree	OHV-Open	94	90	-4	116	+21	166	+72	105	+11
	OHV-Limited	-	-	-	2	+2	23	+23	2	+2
	OHV-Closed	97	101	+4	74	-23	2	-95	84	-13
Cow Flats/Cedar Mountain	OHV-Open	17	18	+2	23	+7	37	+20	21	+4
	OHV-Limited	-	-	-	-	-	-	-	-	-
	OHV-Closed	21	19	-2	14	-7	0	-20	17	-4
Fremont Junction	OHV-Open	14	15	+0	31	+16	40	+26	34	+20
	OHV-Limited	24	-	-24	1	-23	-	-24	-	-24
	OHV-Closed	5	29	+24	11	+7	3	-2	9	+4
Front of the Reef	OHV-Open	51	37	-14	67	+16	74	+23	44	-7
	OHV-Limited	-	-	-	-	-	-	-	-	-
	OHV-Closed	24	38	+14	9	-16	2	-23	31	+7
Grassy Trails	OHV-Open	14	12	-3	27	+13	40	+26	18	+4
	OHV-Limited	-	-	-	1	+1	3	+3	3	+3
	OHV-Closed	29	32	+3	15	-14	0	-29	22	-7
Humbug/Chimney Rock	OHV-Open	112	33	-79	71	-41	91	-20	62	-50
	OHV-Limited	-	14	+14	42	+42	49	+49	34	+34
	OHV-Closed	39	105	+66	39	0	11	-28	55	+16
Limestone Cliffs	OHV-Open	27	15	-12	28	+1	30	+3	24	-3
	OHV-Limited	11	-	-11	-	-11	-	-11	-	-11
	OHV-Closed	3	26	+23	14	+11	12	+9	17	+14
Moore Cutoff/Dutch Flats	OHV-Open	48	45	-3	86	+38	108	+60	62	+14
	OHV-Limited	-	-	-	3	+3	-	-	-	-
	OHV-Closed	62	65	+3	21	-41	2	-60	48	-14
Mounds	OHV-Open	39	36	-3	50	+11	63	+24	44	+5
	OHV-Limited	-	-	-	6	+6	5	+5	-	-
	OHV-Closed	31	34	+3	14	-17	1	-30	26	-5
Mussentuchit/Last Chance	OHV-Open	83	74	-9	92	+8	125	+41	91	+8
	OHV-Limited	-	-	-	4	+4	-	-	-	-
	OHV-Closed	42	51	+9	30	-12	1	-41	34	-8

	Designation	Alt. A	Alt. B		Alt. C		Alt. D		Alt. E	
		Miles	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)
North Jurassic/Flat Top	OHV-Open	48	36	-12	75	+27	92	+44	63	+15
	OHV-Limited	1	1	-	1	-	5	+4	1	0
	OHV-Closed	50	61	+12	23	-27	2	-48	35	-15
Sids Mountain/Wikiup	OHV-Open	132	127	-5	146	+14	166	+34	135	+3
	OHV-Limited	-	-	-	1	+1	1	+1	1	+1
	OHV-Closed	38	43	+5	23	-15	2	-36	34	-4
Surrounding Goblin Valley	OHV-Open	29	23	-6	31	+2	37	+8	27	-2
	OHV-Limited	-	-	-	-	-	-	-	-	-
	OHV-Closed	9	15	+6	7	-2	1	-8	11	+2
Swaseys Cabin/Reds Canyon	OHV-Open	111	98	-13	118	+7	151	+40	106	-5
	OHV-Limited	-	-	-	-	-	4	+4	-	-
	OHV-Closed	46	60	+13	39	-7	2	-44	51	+5
Temple Mountain	OHV-Open	27	18	-9	31	+4	59	+31	30	+3
	OHV-Limited	33	26	-7	48	+15	38	+5	47	+14
	OHV-Closed	38	53	+16	19	-18	1	-36	23	-17

Table 3-18: Miles of Route Limited by Vehicle Type

Designation	Alt. A	Alt. B		Alt. C		Alt. D		Alt. E	
	Miles	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)
Limited to vehicles less than 66" (OHV-Limited)	-	23	+23	58	+58	54	+54	33	+33
Limited to vehicles less than 52" (OHV-Limited)	3	3	-	-	-3	-	-3	-	-3
Limited to single-track vehicles (OHV-Limited)	47	40	-7	104	+57	119	+72	89	+42
Limited to E-bikes (OHV-Limited)	12	12	-	17	+5	17	+5	13	+1
Limited to aircraft (OHV-Limited)	-	0.5	+0.5	1	+1	1	+1	1	+1

TMP implementation activities (Appendix H) that could minimize effects to user conflicts for motorized recreation include education and outreach (disclosure of the final network decision including publishing an interactive map that shows which routes are open and closed), enforcement, monitoring, route maintenance (surface and ditch grading and drainage structure replacement, etc.), and sign placement (digging post holes). Maintenance can interrupt or temporarily block normal route use or access to recreation opportunities. However, maintenance actions would likely also enhance long-term access and safety for recreation experiences, as well as minimize impacts and user conflicts. For example, sign installation would direct recreationists to their destinations and educate recreationists on allowable uses for a particular route, maintenance of existing routes would avoid having users driving around washed-out areas, enforcement of the route network would ensure that users are on the appropriate routes with the appropriate type vehicle, and monitoring would identify effects for corrective action.

### 3.3.4.2.2 Alternative A (No Action)

The Alternative A network includes 47 miles limited to single-track use and 12 miles limited to e-bike use. Overall, 66% of the miles of evaluated routes would remain available for OHV use under Alternative A. Within specific route network geographic areas, between 33% (in the Grassy Trails network) and 90% (in the Limestone Cliffs network) of the evaluated routes would remain designated for OHV use (Open or Limited). Under Alternative A, the north and south parts of the Front of the Reef route network geographic area are not connected by designated routes, so Highway 24 needs to be used to get from one end to the other. The effects described above from continuation of current designations and maintenance of the routes (e.g., impacts to user access for desired recreation opportunities and experiences<sup>34</sup>, encounters or conflicts with other users seeking different experiences or with authorized users, route-finding confusion, etc.) would continue on those routes designated for OHV use. Overall, Alternative A would reflect a continuation of current designations for the 66% of routes designated OHV-Open or OHV-Limited, and the remaining 34% of inventoried routes which are not currently authorized for public use would be designated OHV-Closed.

### 3.3.4.2.3 Alternative B (Resource Protection Emphasis)

Compared to Alternative A, the Alternative B travel network would result in an overall 16% (219-mile) reduction in routes designated OHV-Open, a 19% (19-mile) reduction in routes designated OHV-Limited, and a 32% (237-mile) increase in closed routes.

Table 3-19 compares Alternative B route designation changes to Alternative A. Table 3-20 discusses the route designation changes by route network geographic area. In addition:

- Alternative B would offer less OHV-facilitated access for recreation opportunities and experiences compared to the other alternatives while still providing access to most of the TMA's most popular destinations.
- Alternative B would provide more user-tailored motorized experience opportunities than Alternative A through its OHV-Limited designations. However, Alternative B motorized single-track opportunities would be diminished over Alternative A due to the closure of the Waterfall Trail, a 34% reduction in the Twin Knolls trail system (which spans the Behind-the-Reef and Temple Mountain network areas), and reductions in the Chimney Rock trail system. Depending on their desired experiences, users might be displaced from all three locations onto non-single-track trails in the same areas or concentrated on the remaining single-track trails in the Twin Knolls system.
- Alternative B, in the Sinbad-Swaseys Cabin-Sids Mountain and Temple Mountain RMZs, would see a net reduction in vehicle-based dispersed camping over Alternative A. The affected portion of the former accounts for roughly 4% of all recreation visits to the TMA and the affected portion of the latter accounts for 13% of all TMA recreation visits.
- Alternative B, in the Wedge/Buckhorn RMZ, would not meaningfully affect vehicle-based dispersed camping over Alternative A because the vast majority occurs at BLM designated sites and along the rim of the Little Grand Canyon. However it would diminish motorized recreation on unimproved trails, which would affect that user group but does not diminish overall objectives for the RMZ.
- Alternative B, in the Mounds, Grassy Trails, North Jurassic/Flat Top, Humbug/Chimney Rock, and Cow Flats/Cedar Mountain route network geographic areas would diminish 34% of the OHV opportunities.

<sup>34</sup> The BLM has observed that closing access to sought after recreational opportunities can result in unauthorized OHV use.

- The reduction of routes in Alternative B would result in a substantive reduction in motorized access some remote parts of the backcountry, though in most areas an alternative route is available nearby (e.g., a spur leading to a comparable overlook or another river access point).
- The reduction of routes used for dispersed camping, especially in key high-use areas, has the highest potential for user conflict and is most prominent in Alternative B.
- A reduction of routes could also cause a marginal increase and higher concentration of use with the RMZs resulting in higher probability for user conflicts. However, BLM believes that concentration of use is going to continue to happen because of trending visitor use patterns, and that this TMP decision would not result in any noticeable concentration of use issues for the reasons previously described (use is already concentrated in the five areas).

**Table 3-19: Alternative B Mileage Changes by Designation Type**

	OHV-Open	OHV-Limited					OHV-Closed
		66" (UTV)	52" (ATV)	Single-track	E-bike	Aircraft	
<b>Alt A</b>	1,330	0	3	47	12	0	732
<b>Alt B</b>	1,111	23	3	40	12	0.5	970
<b>Change</b>	-219	+23	0	-7	0	+0.5	+237

**Table 3-20: Impacts to Motorized Recreation Opportunities – Alternative B**

Route Network Geographic Area	Alternative B's Notable Impacts
Behind the Reef	<p>Limiting the 0.4-mile Hidden Splendor Airstrip SS42552 to aircraft would increase safety as ground-based vehicles would not be driving, camping, or parking on or around the airstrip.</p> <p>Closing the 8.6-mile Waterfall Trail SS4308 would eliminate the only single-track route in this route network geographic area (see bulleted list below for contextualization with the rest of the Twin Knolls trail system in the Temple Mountain network area).</p> <p>Closing 3.3 miles of evaluated routes in the route network geographic area would reduce OHV-based dispersed camping opportunities. This is meaningful because the implementation of camping fees at Temple Mountain Townsite in 2023 reduced opportunities for free camping.</p> <p>Opening 2.8 miles of short routes off the Behind-the-Reef Road would allow for vehicle-based dispersed camping.</p> <p>Opening 0.6 miles of short routes near Hidden Splendor would allow for vehicle-based dispersed camping.</p> <p>Opening SS4254 would authorize vehicle travel down to Muddy Creek, which would also facilitate vehicle-based dispersed camping. This road is a major access point for wilderness recreation. Impacts of designating the last 0.4 miles on non-motorized recreation access are analyzed in the next section.</p>
Box Flat/Big Hole	<p>Closing 8.3 miles of short routes on the Prickly Pear flats in the west part of the route network geographic area would require visitors to hike 1.8 miles further to reach a pictograph panel, and 4.4 miles for overlooks in Red Canyon's east and west forks, and 2.4 miles further to reach an overlook looking down into the San Rafael River Canyon and Assembly Hall Peek.</p> <p>Closing 7.8 miles of routes in the east portion of the route network geographic area would decrease opportunities largely for OHV touring off the main county road.</p> <p>Opening 3.4 miles of routes in the east portion of the route network geographic area would increase opportunities to access recreation opportunities on state land.</p>

Route Network Geographic Area	Alternative B's Notable Impacts
Buckhorn/Wedge	Closing 2.6 miles of route along the Good Water Rim Trail would remove vehicular access to two points overlooking Good Water Canyon, reduce motor vehicle touring opportunities, and enhance the experiences of mountain bikers, e-bikers, hikers, and equestrians as they would not be exposed to the noise and dust of motorized vehicles. Closing 20% of the evaluated routes in the route network geographic area would decrease motorized opportunities.
Buckmaster/Tidwell Draw	Opening 39.1 miles (77%) of the Buckmaster Trail network <sup>35</sup> would perpetuate vehicle touring opportunities. Limiting 6.8 miles to single-track would increase opportunities for that user group. Closing 22% of the evaluated Buckmaster Trail network, including 8.2 miles of network-connecting routes and 2.9 miles of short routes, would decrease opportunities for OHV touring. Closing 3.4 miles of short routes paralleling the main route north of Smith Cabin would not impact recreation opportunities.
Coal Cliffs	Limiting 15.7 miles of dirt bike routes close to the town of Moore would provide motorized access to cultural and historic sites and would increase opportunities for recreational/scenic driving for that user group. Opening 115 miles of routes to OHVs would also provide increased opportunities. Closing 1.3 miles would remove those opportunities.
Copper Globe/Lone Tree, Sids Mountain/Mexican Mountain, Swaseys Cabin/Reds Canyon (within Sinbad-Swaseys Cabin-Sids Mountain RMZ)	Closing 29.9 miles of parallel or redundant routes and short routes and loop routes would not diminish the geographic extent or connectivity of the route networks but could make navigation clearer. However, it would reduce access for vehicle-based dispersed camping.
Fremont Junction, Limestone Cliffs <sup>36</sup>	Closing 88% of the routes reducing motorized access in seasonally important habitats. Opening 12% of the routes for recreational riding as well as hunting, wood cutting, shed hunting, and pine nut collecting in the route network geographic areas' dense pinyon-juniper forests. Access would not be lost to private property or adjacent non-BLM federal lands.
Mounds, Grassy Trails, North Jurassic/Flat Top, Humbug/Chimney Rock, Cow Flats/Cedar Mountain <sup>37</sup>	Opening 141 miles (35%) of all routes would perpetuate OHV opportunities. Limiting 3 miles (1%) of all routes to 66" or less vehicles would create opportunities for that user group. Limiting 11 miles (3%) of all routes to motorized single-track would create opportunities for that user group. Closing 244 miles (61%) of all routes would remove OHV opportunities. These four route network geographic areas would see the greatest reduction in motorized recreation opportunities including motorized access to historic features such as old cabins, wagon trails, camps, and mine remnants.
Temple Mountain	Closing 45% (14.8 miles) of the Twin Knolls trail system (32.7 miles of trail predominantly used by motorcyclists) would decrease recreation opportunities, predominantly impacting motorcyclists. Limiting to 52" SS2725 and SS2726 (linking Twin Knolls with the Temple Mountain Townsite area) would enhance connectivity of the single-track network. Full-sized vehicles already dead-end at the single-track system so no reduction in opportunity would occur.

<sup>35</sup> There are 54 miles of evaluated routes in the Buckmaster Trail network.

<sup>36</sup> Currently there are 35.4 miles of evaluated routes in these route network geographic areas that are seasonally closed for wildlife protection.

<sup>37</sup> There are 399 miles of evaluated routes within these route network geographic areas.

Route Network Geographic Area	Alternative B's Notable Impacts
	Closing 4.1 miles of low-use routes in the Temple Mountain area is not expected to detract from recreation opportunities.

#### 3.3.4.2.4 Alternative C (Multiple Use Emphasis)

Compared to Alternative A, the Alternative C travel network would result in a 19% (276-mile) increase in public OHV access within the TMA overall.

Table 3-21 compares Alternative C route designation changes to Alternative A. Table 3-22 discusses the route designation changes by route network geographic area. In addition:

- All OHV-Open routes discussed above in Alternative B are open in Alternative C.
- Alternative C emphasizes incorporating width limitations to enhance opportunities for visitors with narrower OHVs. Roughly 3% of all routes would be restricted to 66" or lower and 6% of would be motorized single-track. However, Alternative C motorized single-track opportunities would be diminished over Alternative A due to the closure of the Waterfall Trail.
- Alternative C would add to routes limited to e-bikes on the Wedge, enhancing the opportunities which already exist due to the Good Water Rim Trail and increasing e-bike trail mileage by roughly 42%.
- In most route network geographic areas, Alternative C increases the route network mileage from Alternatives A, B, and E to create opportunities for longer rides, loops, and appreciation of scenery and historic and cultural sites. This is especially prominent in the Copper Globe/Lone Tree, Temple Mountain, Swaseys Cabin/Reds Canyon, and Sids Mountain/Wickiup route network geographic areas and the Coal Cliffs, Box Flat/Big Hole, Grassy Trails, and Humbug/Chimney Rock route network geographic areas. This provides vehicular access to overlooks, historic sites such as cabins, Cold War-era mines, rock imagery panels, dispersed camping opportunities (especially the three RMZs), and opportunities for sightseeing and camping. It also increases opportunities for education and appreciation of historic resources. This allows recreationists who are unable to hike, or who do not have the experience to engage in backcountry non-motorized recreation, to recreate in primitive, remote environments they would not otherwise be able to visit.

**Table 3-21: Alternative C Mileage Changes by Designation Type**

	OHV-Open	OHV-Limited					OHV-Closed
		66" (UTV)	52" (ATV)	Single-track	E-bike	Aircraft	
Alt A	1,330	0	3	47	12	0	732
Alt C	1,524	58	0	104	17	1	456
Change	+194	+58	-3	+57	+5	+1	-276

**Table 3-22: Summary of Impacts to Motorized Recreation Opportunities – Alternative C**

Route Network Geographic Area	Alternative C's Notable Impacts
Behind the Reef	Same as Alternative B minus the closure of the Waterfall Trail.
Box Flat/Big Hole	Opening 12 miles of routes would allow for motorized access including access to three overlooks of Red Canyon's east and west forks and a pictograph panel, enabling a greater number of visitors to appreciate scenery and cultural sites. Limiting 6.8 miles to motorized singletrack and 8.4 miles to 66" would facilitate recreation opportunities for their respective users.

Route Network Geographic Area	Alternative C's Notable Impacts
Buckhorn/Wedge	Closing 2.6 miles of route along the Good Water Rim Trail would remove vehicular access to two points overlooking Good Water Canyon, reduce motor vehicle touring opportunities, and enhance the experiences of mountain bikers, e-bikers, hikers, and equestrians as they would not be exposed to the noise and dust of motorized vehicles. Closing 25% of the non-county motorized routes in the route network geographic area would decrease motorized opportunities.
Buckmaster/Tidwell Draw	Opening 36.2 miles (72%) of the Buckmaster trail network <sup>38</sup> would perpetuate vehicle touring opportunities. Limiting 7.5 miles (15%) would facilitate recreation opportunities for their respective users. Closing 6.5 miles (1%) would decrease opportunities for vehicle touring. Closing 1.8 miles of short routes paralleling the main route north of Smith Cabin would not impact recreation opportunities.
Coal Cliffs	Limiting 15.7 miles of dirt bike routes close to the town of Moore would provide motorized access to cultural and historic sites and would increase opportunities for recreational/scenic driving for that user group. Opening 115 of the 132 miles of routes in the network to OHVs would continue those opportunities. Closing 1.3 miles would remove those opportunities.
Copper Globe/Lone Tree, Sids Mountain/Mexican Mountain, Swaseys Cabin/Reds Canyon (within Sinbad-Swaseys Cabin-Sids Mountain RMZ)	Closing 29.9 miles of parallel or redundant routes and short routes and loop routes would not diminish the geographic extent or connectivity of the route networks but could make navigation clearer. However, it would reduce access for vehicle-based dispersed camping. Limiting SS4589 (Sagebrush Bench airstrip) to aircraft would increase safety as ground-based vehicles would not be driving, camping, or parking on or around the airstrip
Fremont Junction, Limestone Cliffs <sup>39</sup>	Same as Alternative B
Mounds, Grassy Trails, North Jurassic/Flat Top, Humbug/Chimney Rock, Cow Flats/Cedar Mountain <sup>40</sup>	Opening 301 miles (75%) of all routes would perpetuate OHV opportunities. Limiting 3 miles (1%) of all routes to 66" or less vehicles would create opportunities for that user group. Limiting 11 miles (3%) of all routes to motorized single-track would create opportunities for that user group. Closing 84 miles (21%) of all routes would remove OHV opportunities.
Temple Mountain	Same as Alternative B

### 3.3.4.2.5 Alternative D (Access Emphasis)

Compared to Alternative A, the Alternative D travel network maximizes access across the TMA. It would close 51 miles (2%) of the inventoried routes.

Table 3-23 compares Alternative D route designation changes to Alternative A. Table 3-24 discusses the route designation changes by route network geographic area. In addition:

- All OHV-Open routes discussed in Alternative C are open in Alternative D.
- Alternative D focuses on maximizing motorized access.
- The routes closed in Alternative D are receiving negligible to no use by the public.
- Alternative D opens nearly all of the evaluated routes in the Temple Mountain route network geographic area and includes historic mining routes in other locations including Copper Globe, Calf Mesa, Reds Canyon, and Buckmaster (Sids Mountain/Wickiup, Black Dragon/Mexican

<sup>38</sup> There are 50.2 miles of evaluated routes in the Buckmaster Trail network.

<sup>39</sup> Currently there are 35.4 miles of evaluated routes in these route network geographic areas that are seasonally closed for wildlife protection.

<sup>40</sup> There are 399 miles of evaluated routes within these route network geographic areas.

Mountain, and Buckmaster/Tidwell Draw, respectively). Compared to the other alternatives, Alternative D would allow the greatest number of opportunities for dispersed camping, sightseeing, and exploring the historic mines and mining features associated with the Temple Mountain Mining District. Alternative D creates the most opportunities for visitors to learn about the district's Cold War history. Opening short, dead-end routes does not change the networks' connectivity, but does enhance the accessibility of historic sites. This allows recreationists who are unable to hike, or who do not have the experience to engage in backcountry non-motorized recreation, to recreate in primitive, remote environments they would not otherwise be able to visit.

- Alternative D opens 13 routes open along Mexican Mountain Road (2 more than Alternative C), ranging from small (<0.1 miles) loops to 0.7 miles, for dispersed camping opportunities.
- Alternative D's relatively low amount of width restrictions could result in more motorized user conflict than Alternative C.
- Some of Alternative D's open roads are occasionally used as hiking opportunities. Most of these hikes are within a mile of the nearest currently open route, and route openings would not affect any well-known destination hikes. Because these are old roads, and not destination hikes, there are no documented motorized and non-motorized conflicts, and creation of conflicts is not anticipated. For additional information on non-motorized conflicts, see Section 3.3.4.3, Alternative D.
- A possible adverse effect of this high level of OHV access is conflict with authorized users/uses, especially grazing, as many of the dead-end routes open in Alternative D but closed in Alternatives B, C, and E lead to range improvements such as developed springs, reservoirs, and mineral sites which concentrate cattle at those locations.

**Table 3-23: Alternative D Mileage Changes by Designation Type**

	OHV-Open	OHV-Limited					OHV-Closed
		66" (UTV)	52" (ATV)	Single-track	E-bike	Aircraft	
<b>Alt A</b>	1,330	0	3	47	12	0	732
<b>Alt D</b>	1,919	54	0	119	17	1	51
<b>Change</b>	+589	+54	-3	+72	+5	+1	-681

**Table 3-24: Summary of Impacts by Route Network Geographic Area – Alternative D**

Route Network Geographic Area	Alternative D's Notable Impact
Behind the Reef	<p>Limiting 0.9 miles of airstrips (Hidden Splendor and McKay Flat) to aircraft would increase safety as ground-based vehicles would not be driving, camping, or parking on or around the airstrips.</p> <p>Opening 7.1 miles of short routes and loop routes along the Behind-the-Reef Road and Temple Mountain Junction would increase access to parking and vehicle dispersed camping.</p> <p>Opening SS4254 would authorize vehicle travel down to Muddy Creek, which would also facilitate vehicle-based dispersed camping. This road is a major access point for wilderness recreation. Impacts of designating the last 0.4 miles on non-motorized recreation access are analyzed in the next section.</p>

Route Network Geographic Area	Alternative D's Notable Impact
Box Flat/Big Hole	Opening 22.9 miles of routes would allow for motorized access including access to three overlooks of Red Canyon's east and west forks and a pictograph panel, enabling a greater number of visitors to appreciate scenery and cultural sites. Limiting 7.2 miles to motorized singletrack and 7.2 miles to 66" would facilitate recreation opportunities for their respective users.
Wedge/Buckhorn	Opening SS3224 and SS3225 would authorize vehicle travel to two additional overlooks of the San Rafael River with greater solitude than the Wedge area affords. Opening SS2228-29 and SS3283-84 would enhance opportunities for scenic touring and camping in the same area. Opening SS3178 would provide access to a remote overlook along the canyon rim. Opening many small spurs and loops along the road to this point would increase vehicle-based dispersed camping opportunities. Given the high volume of traffic which comes to the rim, these designations maximize access for a high volume of diverse visitors; they also increase potential of visitor impacts along the corridor.
Buckmaster/Tidwell Draw	Opening 41.6 miles (82%) of the Buckmaster Trail network would perpetuate vehicle touring opportunities. Limiting 6.9 miles to single-track would increase opportunities for that user group. Closing 1.4 miles (3%) would decrease opportunities for OHV touring. No trails north of Smith Cabin would be closed.
Coal Cliffs	Opening 128 miles of routes to OHVs would provide motorized access to cultural and historic sites and would increase opportunities for recreational/scenic driving for that user group. Limiting 2 miles would create opportunities for that user group. Closing 2 miles would remove those opportunities. the 132 miles in the route network geographic area would be Open, 2 miles would be limited, and 2 miles would be closed.
Copper Globe/Lone Tree, Sids Mountain/Mexican Mountain, Swaseys Cabin/Reds Canyon (within Sinbad-Swaseys Cabin-Sids Mountain RMZ)	Opening nearly every route in the Sinbad-Swaseys Cabin-Sids Mountain RMZ including many short routes which could be used for vehicle-based dispersed camping or to access mines by vehicle. Limiting the 9.1 Willow Spring motorized single track system would create a new opportunity for that user group in the Copper Globe/Lone Tree route network geographic area west of Devils Canyon. Opening 7.4 miles of route roughly parallel to the southwest boundary of Devils Canyon Wilderness would enable motorized access to an overlook of Sagebrush Bench. Limiting SS4589 (Sagebrush Bench airstrip) to aircraft would increase safety as ground-based vehicles would not be driving, camping, or parking on or around the airstrip
Fremont Junction, Limestone Cliffs <sup>41</sup>	Opening 80% of the seasonally limited routes in these route network geographic areas would maximize year-round access to hunting, firewood cutting, pine nut foraging, camping, and other recreational opportunities as well as motorized winter recreation not previously accessible. Closing 36.6. miles would not substantively reduce non-motorized recreation access or trail connectivity because 24.4 miles are currently closed.
Mounds, Grassy Trails, North Jurassic/Flat Top, Humbug/Chimney Rock, Cow Flats/Cedar Mountain <sup>42</sup>	Same as Alternative C

<sup>41</sup> Currently there are 35.4 miles of evaluated routes in these route network geographic areas that are seasonally closed for wildlife protection.

<sup>42</sup> There are 399 miles of evaluated routes within these route network geographic areas.

Route Network Geographic Area	Alternative D's Notable Impact
Temple Mountain	Opening 44 miles of OHV routes around Temple Mountain which lead to mines, historic features and camping opportunities. This change maximizes public OHV access to these sites by allowing visitors who are unable to hike to see them up close. Limiting the Color Trails (SS2723-2724) to 66" instead of single track. This would increase the number of visitors who could access the trail but could diminish the experiences of motorcyclists who currently use the system. Similarly, opening Escape Route could diminish the experiences of motorcyclists who currently use the system.

### 3.3.4.2.6 Alternative E (Public Comment Adjusted Alternative)

Compared to Alternative A, the Alternative E travel network would result in a 5% (67-mile) increase in public OHV access within the TMA overall.

Table 3-25 compares Alternative E route designation changes to Alternative A. Table 3-26 discusses the route designation changes by route network geographic area. In addition:

- All OHV-Open routes discussed above in Alternative B are open in Alternative E.
- Alternative E emphasizes incorporating width limitations to enhance opportunities for visitors with narrower OHVs. Roughly 2% of all routes would be restricted to 66" or lower and 6% of would be motorized single-track.
- Alternative E would add to routes limited to e-bikes on the Wedge, enhancing the opportunities which already exist due to the Good Water Rim Trail and increasing e-bike trail mileage by roughly 8%.
- In most route network geographic areas, Alternative E increases the route network mileage from Alternatives A and B to create opportunities for longer rides, loops, and appreciation of scenery and historic and cultural sites. This is prominent in the Copper Globe/Lone Tree, Temple Mountain, Swaseys Cabin/Reds Canyon, Sids Mountain/Wickiup, Coal Cliffs, Box Flat/Big Hole, Grassy Trails, and Humbug/Chimney Rock route network geographic areas. This provides vehicular access to overlooks, historic sites such as cabins, Cold War-era mines, rock imagery panels, dispersed camping opportunities (especially the three RMZs), and opportunities for sightseeing and camping. It also increases opportunities for education and appreciation of historic resources. This allows recreationists who are unable to hike, or who do not have the experience to engage in backcountry non-motorized recreation, to recreate in primitive, remote environments they would not otherwise be able to visit.

**Table 3-25: Alternative E Mileage Changes by Designation Type**

	OHV-Open	OHV-Limited					OHV-Closed
		66" (UTV)	52" (ATV)	Single-track	E-bike	Aircraft	
Alt A	1,330	0	3	47	12	0	732
Alt E	1,355	33	0	89	13	1	665
Change	+25	+33	-3	+42	+1	+1	-67

**Table 3-26: Summary of Impacts to Motorized Recreation Opportunities – Alternative E**

Route Network Geographic Area	Alternative E's Notable Impacts
Behind the Reef	<p>Limiting the 0.4-mile Hidden Splendor Airstrip SS42552 to aircraft would increase safety as ground-based vehicles would not be driving, camping, or parking on or around the airstrip.</p> <p>Closing 8.5 miles of evaluated routes in the route network geographic area would reduce OHV-based dispersed camping opportunities. This is meaningful because the implementation of camping fees at Temple Mountain Townsite in 2023 reduced opportunities for free camping.</p> <p>Opening 2.8 miles of short routes off the Behind-the-Reef Road would allow for vehicle-based dispersed camping.</p> <p>Opening 0.6 miles of short routes near Hidden Splendor would allow for vehicle-based dispersed camping.</p> <p>Opening SS4254 would authorize vehicle travel down to Muddy Creek, which would also facilitate vehicle-based dispersed camping. This road is a major access point for wilderness recreation. Impacts of designating the last 0.4 miles on non-motorized recreation access are analyzed in the next section.</p>
Box Flat/Big Hole	<p>Opening 1.6 miles of routes would allow for motorized access including access to three overlooks of Red Canyon's east and west forks and a pictograph panel, enabling a greater number of visitors to appreciate scenery and cultural sites.</p> <p>Limiting 8 miles to motorized singletrack and 66" or less would facilitate recreation opportunities for their respective users.</p>
Buckhorn/Wedge	<p>Seasonally limiting 2.5 miles of route along the Good Water Rim Trail would remove vehicular access to two points overlooking Good Water Canyon, reduce motor vehicle touring opportunities, and enhance the experiences of mountain bikers and e-bikers, as they would not be exposed to the noise and dust of motorized vehicles from April 15 to June 15.</p> <p>Closing 14% of the inventoried routes in the route network geographic area would decrease motorized opportunities.</p>
Buckmaster/Tidwell Draw	<p>Opening 32 miles (60%) of the Buckmaster trail network<sup>43</sup> would perpetuate vehicle touring opportunities. Limiting 11 miles (20%) would facilitate recreation opportunities for their respective users. Closing 11 miles (20%) would decrease opportunities for vehicle exploring.</p>
Coal Cliffs	<p>Opening/Limiting an additional 16 miles (12 %) of designated routes close to the towns of Moore and Emery would provide motorized access to cultural and historic sites and would increase opportunities for recreational/scenic driving for that user group. Closing 70 miles (52%) of the inventoried routes would remove those additional opportunities.</p>
Copper Globe/Lone Tree, Sids Mountain/Mexican Mountain, Swaseys Cabin/Reds Canyon (within Sinbad-Swaseys Cabin-Sids Mountain RMZ)	<p>Closing 29 miles of parallel or redundant routes and short routes and loop routes would not diminish the geographic extent or connectivity of the route networks but could make navigation clearer. Dozens of existing dispersed campsites would have legalized access routes under this alternative. Opening SS4589 (Sagebrush Bench airstrip) to aircraft would increase opportunities for those seeking to explore backcountry airstrips in this area.</p>

<sup>43</sup> There are 50.2 miles of evaluated routes in the Buckmaster Trail network.

Route Network Geographic Area	Alternative E's Notable Impacts
Fremont Junction, Limestone Cliffs <sup>44</sup>	Opening (79%) of the seasonally limited routes in these route network geographic areas would maximize year-round access to hunting, firewood cutting, pine nut foraging, camping, and other recreational opportunities as well as motorized winter recreation not previously accessible.  Closing (11%) would not substantively reduce non-motorized recreation access or trail connectivity.
Mounds, Grassy Trails, North Jurassic/Flat Top, Humbug/Chimney Rock, Cow Flats/Cedar Mountain <sup>45</sup>	Opening 209 miles (53%) of all routes would perpetuate OHV opportunities. Limiting 38 miles (9%) of all routes to motorized single-track or 66" or less would create opportunities for those user groups. Closing 154 miles (38%) of all routes would remove the potential for new OHV opportunities, since most of these miles are already closed.
Temple Mountain	Opening 44 miles of OHV routes around Temple Mountain which lead to mines, historic features, and camping opportunities. This change maximizes public OHV access to these sites by allowing visitors who are unable to hike to see them up close. Limiting the Color Trails (SS2723-2724) to 66" instead of single track would increase the number of visitors who could access the trail but could diminish the experiences of motorcyclists who currently use the system. Similarly, opening Escape Route could diminish the experiences of motorcyclists who currently use the system.

### 3.3.4.2.7 Cumulative Effects to Motorized Recreation

Past, present, and foreseeable actions and trends were previously described in the Cumulative Actions for Motorized Recreation portion of Section 3.3.4.1. Cumulative effects from those actions include the overall changes in OHV recreation opportunities on BLM land shown in Table 3-27. Providing an insufficient number of routes for users to camp on would have the cumulative impact of diminishing dispersed camping opportunities in the analysis area. In most of Grand County's high-use areas on BLM lands, dispersed camping is limited either to developed or dispersed campsites. As dispersed camping is currently allowed throughout the entire PFO and RFO, it may hold appeal to users who desire that specific experience. Route width limitations could have cumulative effects by increasing or decreasing the availability of vehicle-restricted trails for users who want a specialized experience separate from other OHV types. Limitations to vehicle types preclude other OHVs but also enhances opportunities for visitors with narrower OHVs. The magnitude of the effects is greatest where there is high use, and thus potential of crowding or resource conflict.

Limitations to vehicle types preclude other OHVs but also enhances opportunities for visitors with narrower OHVs.

<sup>44</sup> Currently there are 35.4 miles of evaluated routes in these route network geographic areas that are seasonally closed for wildlife protection.

<sup>45</sup> There are 399 miles of evaluated routes within these route network geographic areas.

**Table 3-27: TMA Alternatives Expressed in Percent of Travel Routes by Analysis Area**

<b>San Rafael Swell TMA</b>	<b>Price, Richfield, and Moab 2008 RMPs' TMAs (Carbon, Emery, Garfield, Grand, Paiute, Sanpete, Sevier, Wayne Counties) totaling 8,700 miles (see Section 3.2.1)<sup>1</sup></b>	<b>Percent change in Price, Vernal, Moab, Richfield, and Kanab 2008 RMPs' TMA totaling 15,000 miles (see Section 3.2.1)<sup>1</sup></b>
<p>Alternative A miles: 1,330 open and 99 limited</p> <ul style="list-style-type: none"> <li>No change to the total open or limited mileage.</li> <li>No change to the width limits on 63 miles of routes.</li> </ul>	16% of designated travel routes in the 8 counties	10% of designated travel in eastern Utah
<p>Alternative B miles: 1,112 open and 82 limited</p> <ul style="list-style-type: none"> <li>A net mileage reduction of open or limited routes within the analysis area of 7%.</li> <li>Width limits on 17 fewer miles of routes, for a decrease of 6% in the analysis area including one Limited to Aircraft route.</li> </ul>	16% of designated travel routes in the 3 counties	8% of designated travel in eastern Utah
<p>Alternative C miles: 1,522 open and 180 limited</p> <ul style="list-style-type: none"> <li>A net mileage increase of open or limited routes within the analysis area of 8%.</li> <li>Width limits on 81 additional miles of routes, for an increase of 31% in the analysis area including two Limited to Aircraft routes.</li> </ul>	20% of designated travel routes in the 3 counties	11% of designated travel in eastern Utah
<p>Alternative D miles: 1,924 open and 183 limited</p> <ul style="list-style-type: none"> <li>A net mileage increase of open or limited routes within the analysis area of 21%.</li> <li>Width limits on 84 additional miles of routes, for an increase of 32% in the analysis area including two Limited to Aircraft routes.</li> </ul>	24% of designated travel routes in the 3 counties	14% of designated travel in eastern Utah

San Rafael Swell TMA	Price, Richfield, and Moab 2008 RMPs' TMAs (Carbon, Emery, Garfield, Grand, Paiute, Sanpete, Sevier, Wayne Counties) totaling 8,700 miles (see Section 3.2.1) <sup>1</sup>	Percent change in Price, Vernal, Moab, Richfield, and Kanab 2008 RMPs' TMA totaling 15,000 miles (see Section 3.2.1) <sup>1</sup>
<p>Alternative E miles: 1,355 open and 141 limited</p> <ul style="list-style-type: none"> <li>• A net mileage increase of open or limited routes within the analysis area of 2%.</li> <li>• Width limits on 42 additional miles of routes, for an increase of 16% in the analysis area including two Limited to Aircraft routes.</li> </ul>	17% of designated travel routes in the 3 counties	10% of designated travel in eastern Utah
<p><sup>1</sup> Given that the San Rafael Swell will and Canyon Rims (Indian Creek), and Labyrinth Rims Gemini Bridges did replace a portion of the 2008 RMP's TMP route designations, the BLM calculated the percent of the designated travel routes.</p>		

Cumulative effects to recreation also arise from conflicts between motorized and non-motorized recreation users, grazing permittees, mineral lessees or permittees, and landowners. Other authorized users in the analysis area may be driving larger vehicles such as livestock semi-trucks or heavy equipment transport vehicles for graders or dozers, or larger number of vehicles such as rig transport and crew vehicles needed to drill an oil well, which can further add to crowding and affect recreation opportunities. User safety issues are exacerbated by limited sight distance on some routes due to topography (hills or curves), increased traffic, access to hazardous mine sites, and mixed traffic on travel routes (e.g., semi-trucks, equestrian and dirt bike use on the same route). As use increases relative to project development and OHV access and recreation, user safety issues also increase. Limiting and Closing routes to OHV use reduces the types of vehicles and number of routes where potential user conflicts could occur.

### 3.3.4.3 **Environmental Effects Analysis: Non-motorized Recreation**

When creating the alternative route networks, the BLM evaluated non-motorized recreation opportunities and avoided or minimized effects at a route specific level considering the goal of the alternative and using resource-, route-, and alternative-appropriate measures including but not limited to closure (avoidance) and the minimization measures described in the Implementation Guide, Appendix H. When BLM identified disproportionately large OHV impacts to non-motorized recreation or unresolved conflicts, the BLM prioritized closure regardless of alternative. For open and limited routes, BLM would implement measures from Appendix H to monitor and minimize impacts.

#### 3.3.4.3.1 **Common to All Alternatives**

Under all alternatives, the following circumstances would stay the same:

- Maintaining open routes within wilderness cherry-stems would make backcountry non-motorized recreation more accessible to those equipped with the appropriate vehicle.
- Aircraft would continue to use designated airstrips, whether or not they are designated as limited to aircraft and could land on any route designated as OHV-Open. Aircraft take-off and landing noise would occur during daylight hours in good weather.
- Anglers would continue to have access to the rivers for fishing.

- The routes in Table 3-16 would be open in all alternatives. These routes provide access to non-motorized trailheads.
- The majority of TMA non-motorized recreation would continue to occur throughout designated wilderness areas as well as other scattered sites in the TMA.
- Motorized access would continue to all BLM-established or user-created trailheads. Some closures in certain alternatives may result in a minor change in hiking distance due to route shortening or extension, but no changes exceed one mile.

Sights, sounds, and other evidence of human presence (such as vehicles) can hinder a visitor's sense of remoteness and degrade the physical environment. The magnitude of the effect depends on the proximity of the visitor to the disruption. As a proxy for measuring effects to non-motorized recreation, Table 3-28 summarizes the route mileage in each Recreation Opportunity Spectrum Class (See Appendix D for additional information on these classes).

**Table 3-28: Mileages\* within Semi-primitive and primitive ROS Classes\*\* by Alternative**

ROS Class	Miles OHV-Open	Miles OHV-Limited	Miles OHV-Closed
Alternative A (Baseline)			
Semi-primitive motorized	907	48	519
Semi-primitive non-motorized	52	12	82
Primitive	0.02	0	0.06
Alternative B			
Semi-primitive motorized	747	67	661
Semi-primitive non-motorized	39	2	105
Primitive	0.04	0	0.04
Alternative C			
Semi-primitive motorized	1,020	142	312
Semi-primitive non-motorized	72	26	48
Primitive	0.04	0	0.04
Alternative D			
Semi-primitive motorized	1,313	134	27
Semi-primitive non-motorized	102	42	2
Primitive	0.08	0	0

ROS Class	Miles OHV-Open	Miles OHV-Limited	Miles OHV-Closed
Alternative E			
Semi-primitive motorized	912	115	447
Semi-primitive non-motorized	54	14	78
Primitive	0.04	0	0.04
<p>*The mileages under each alternative are less than the total TMA mileage because the 2008 Richfield RMP did not establish ROS classes and because the 2008 Price RMP's rural and roaded natural ROS classes are not included.</p> <p>**To assist in the analysis of impacts to the non-motorized experience, this table discloses the mileages in the semi-primitive motorized, semi-primitive non-motorized, and primitive ROS classes because those are the areas where the 2008 Price RMP focuses its management on maintaining a natural setting with moderate modifications, subtle modifications, or that is unmodified. The other ROS classes in the TMA, rural and roaded natural, are not relevant to the non-motorized experience analysis because they provide for easily noticed or dominate modifications of a natural or modified natural setting.</p>			

TMP implementation activities (Appendix H) that could affect non-motorized recreation include route maintenance (surface and ditch grading and drainage structure replacement, etc.), and sign placement (digging post holes). Maintenance can interrupt or temporarily block normal route use or access to recreation opportunities, and the noise can interrupt the non-motorized experience. However, maintenance actions would likely also enhance long-term access and safety for recreation experiences, as well as minimize impacts and user conflicts. For example, sign installation and enforcement would direct motorized recreationists to their destinations and educate recreationists on allowable uses for a particular route which would preserve the non-motorized experience in areas away from the route network, and monitoring would identify effects and conflicts for corrective action.

The nature of the effects will be the same across alternatives; however, the magnitude and location of the routes will vary. The magnitude can be judged using Table 3-28 – Table 3-31. The location of the effects can be judged using Map 2 – Map 6.

#### 3.3.4.3.2 Alternative A (No Action)

Under Alternative A, there would be no change to non-motorized recreation access to the 55 non-motorized trailheads. There would also not be any changes to the recreation experiences as approximated in Table 3-28.

#### 3.3.4.3.3 Alternative B (Resource Protection Emphasis)

Under Alternative B, changes to the recreation experiences are approximated in Table 3-28's calculations of mileage in the ROS zones. Table 3-29 discusses the Alternative's impacts to non-motorized activities within the route network geographic areas. In general:

- Alternative B has the least amount of mileage out of all alternatives in semi-primitive non-motorized and primitive zones. In semi-primitive non-motorized zones there would be 39 miles of OHV-Open (75% of baseline/Alternative A) and 2.3 miles OHV-Limited (20% of baseline/Alternative A). In primitive zones there would be a short OHV-Open (0.04 mile) route. Within the RMZs, the only place where a motorized route would enter semi-primitive non-motorized or primitive zones would be dead-end routes at the mouths of Chute and Wild Horse Canyons which would likely be used by motorists and non-motorized users for camping.
- In the Humbug/Chimney, Grassy Trails, Mounds, and North Jurassic/Flat Top route network geographic areas, Alternative B's reduced route density would afford more open spaces for non-motorized use. Specifically, the RMP identified a semi-primitive non-motorized zone around part

of the Price River in this area. Lessened vehicular use here would facilitate a more natural setting conducive to hiking and appreciating scenery and wildlife. The currently open route through Humbug Canyon (predominantly used by motorcyclists) would be closed, affording hikers solitude in the lower half of Humbug Canyon, and hikers and boaters in the Price River corridor would have a reduced potential for vehicle encounters.

- Alternative B's lower network mileage around several remote summits in the SRMA including Temple Mountain, Family Butte, the San Rafael Knob, and Bottleneck Peak would facilitate a more natural environment and remoteness for visitors who are hiking and rock climbing. This also reduces the probability of encountering other users since vehicle users can cover ground more quickly than a hiker or equestrian rider.

**Table 3-29: Summary of Impacts to Non-motorized Recreation Opportunities – Alternative B**

Route Network Geographic Area	Impact Summary
Behind the Reef	<p>Opening<sup>46</sup> SS4254, the route that descends the bluff above Muddy Creek, decreases the distance to any destination along the creek by 0.4 mile. The Hidden Splendor trailhead is a popular access point for hiking, backpacking, canyoneering, seasonal river running, and horseback riding. Allowing access closer to the river in particular makes this trailhead more accessible to river runners.</p> <p>Opening spurs routes along the Behind-the-Reef Road would enhance vehicle-based camping opportunities but could decrease opportunities for solitude for hikers, as many spurs are at the mouths of canyons which cut into wilderness and are appealing for hikers and horseback riders.</p>
Black Dragon/Mexican Mountain	<p>Opening SS2061 would establish a more formal access point for a climbing wall to the west (Dylan Wall). This affords visitor safety as there would be a contained trailhead for climbers to park at, rather than leaving their vehicles along the road (which sees moderate to heavy use during the fair-weather seasons).</p> <p>Opening SS2123, which is within a cherry-stem into the Mexican Mountain Wilderness, and SS2124, which forms a portion of its border, would increase backcountry access for solitude-seeking visitors interested in hiking/riding cross-country in the more remote parts of the wilderness. However, neither provides access to established/well-known recreation opportunities.</p>
Buckhorn/Wedge	<p>Closing SS3083 (Calf Canyon) adds 0.5 miles of hiking for hikers and climbers to reach the confluence of Calf and Pine canyons and one mile to reach the climbing area in Pine Canyon. Hiking is on a road with varied surface at the bottom of a scenic canyon but may still be detrimental for climbers carrying heavy gear. However, the solitude afforded by there being no vehicles around, as well as the cessation of impacts from vehicle-based dispersed camping, would enhance the quality of the experience for many visitors.</p>
Buckmaster/Tidwell Draw	<p>Opening SS2278 (Cottonwood Wash) eliminates 0.5 mile of road walking up a steep hill, leaving a one-mile hike for visitors to reach the trailhead. Cottonwood Wash is an easy, flat wash with inscriptions, petroglyphs, and</p>

<sup>46</sup> All routes cited in this table and the equivalents for Alternatives C-E would either be designated as “Open” or “Closed” and are analyzed as such unless otherwise stated.

Route Network Geographic Area	Impact Summary
	pictographs a short distance from the trailhead. Those seeking a longer hike would still have ample opportunities as the canyon itself is over four miles long and affords many opportunities for longer backcountry routes through the San Rafael Reef.
Front of the Reef	Closing SS5230A (Ernie Canyon) adds 0.1 miles to two hiking routes and a technical canyon route
Mussentuchit/Last Chance	Opening SS5389 (Corral Canyon) eliminates 0.7 mile of flat road walking for canyoneers. This would improve the quality of the experience because the walk is flat and not especially scenic and canyoneers need to carry equipment.
Sids Mountain/Wikiup	Closing SS3083 (Cane Wash), which is a 5.5-mile route on the bottom of a wash that has the same look and feel as the rest of the wash, would enhance the quality of hikers' and equestrians' experience because they would not encounter vehicles on the portion of their loop that overlaps this route. Some visitors to Cane Wash, especially equestrians, hike upriver from Johansen Corral and then up Cane Wash, looping back to the trailhead. This wash affords solitude in the canyons of the Sids Mountain Wilderness.

#### 3.3.4.3.4 Alternative C (Multiple Use Emphasis)

Alternative C's changes to the recreation experiences are approximated in Table 3-28's calculations of mileage in the ROS zones. Table 3-30 discusses the Alternative C's additional impacts to non-motorized activities within the route network geographic areas. The impacts described in Table 3-29 also apply. In general:

- Alternative C's greatest mileage increases are within the PFO ERMA. The higher density of routes does not leave large expanses of undeveloped backcountry in the ERMA.
- Alternative C opens motorized use on canyon rims in the San Rafael Swell SRMA which could diminish the tranquility and feelings of remoteness of non-motorized users in the canyons. Activities which could impair their solitude include visible headlights at night, noises/shouting, and drone overflights, the latter of which is occasionally reported in high-use areas such as the Wedge.
- Alternative C increases vehicular access to dispersed camping opportunities in the RMZs and historic sites and mines. This diversifies the users who are able to visit these sites. While non-motorized recreationists could still walk to them, research shows that these users are unlikely to enjoy hiking on an active road due to the noise and dust generated by vehicles and loss of opportunities for solitude.

**Table 3-30: Summary of Additional Impacts to Non-motorized Recreation Opportunities – Alternative C**

Route Network Geographic Area	Impact Summary
Behind the Reef	<p>Limiting the McKay Flat airstrip SS4226A to aircraft landings can diminish solitude as they are readily seen and heard from a wide ground area. This airstrip sits between two wilderness cherry-stems, one of which is used to access a beginner-friendly, and thus relatively popular, technical canyon.</p> <p>Opening loops at the top of Wild Horse Canyon SS4283-84, and SS4288-89 would facilitate vehicle-based dispersed camping opportunities in a high-use area near many hikes. This area is a semi-primitive non-motorized ROS class. This would increase likelihood of hikers and horseback riders encountering other visitors and/or be disturbed by motorized use, both of which are not preferred in the semi-primitive non-motorized zone. Since Wild Horse Canyon non-motorized use is confined by canyon walls, these encounters would not be readily avoidable by people existing the canyon.</p> <p>Opening SS4322 would decrease the hiking distance to two technical canyons by 0.3 mile, although there would be no net change for individuals making a loop with Ramp Canyon (a common approach for those without a shuttle). The more substantive benefit would be allowing vehicle camping further away from the main road. The Behind-the-Reef OHV trail is a technically challenging trail most often trafficked by UTVs. Camping set further back from the road allows a buffer from vehicle noise for visitors camping here before/after their trip to have some buffer from vehicle noise without having to hike into a campsite.</p>
Black Dragon/Mexican Mountain	<p>Opening more spur routes along Mexican Mountain Road would increasing authorized vehicle camping opportunities which could be appreciated by climbers, hikers, and canyoneers who frequent this area.</p>
Box Flat/Big Hole	<p>Opening SS2180s-2210s would increase routes in a semi-primitive non-motorized area near the top of Red Canyon. Red Canyon is a side canyon accessed by Mexican Mountain Road (below the canyon rim) which sees light rock climbing and hiking use. It is highlighted in several guide websites/books for scenery, a sense of remoteness despite its accessibility by vehicle, and opportunities for personal challenge such as establishing new climbing routes and hiking a challenging loop that which climbs up to the canyon's rim to link the east and west forks. The presence of vehicles on the rim could disturb recreationists in the as well as hikers completing the east fork-west fork loop, who could encounter a vehicle.</p>

Route Network Geographic Area	Impact Summary
Buckhorn/Wedge	<p>Opening Calf Canyon SS3083 would diminish opportunities for solitude.</p> <p>Opening SS3224, 25 (North Salt Wash overlooks) and SS3177 (Virgin Springs Canyon overlook) near the Wedge would diminish opportunities for solitude and tranquility sought by backpackers and river runners in the canyon. While visitation to these remote overlooks is expected to be low based on current visitor use patterns, recreationists at the bottom of the canyon (backpackers, equestrians, river runners) have a higher sensitivity to obstructive activities due to the remoteness of their destination. Adverse impacts in this route network geographic area are likelier because the Wedge area is a high-use destination for motorists, North Salt Wash/the Little Grand Canyon are prominent destinations for backpacking in the SRMA, and the mouth of Virgin Springs Canyon has the best-established campsites in that corridor. The two overlooks near North Salt Wash are in a semi-primitive non-motorized zone.</p> <p>Limiting SS3115 to e-bikes could cause visitor sensitivity since e-bikes can cover ground more quickly than hikers. Approximately half of the 3.5-mile e-bike trail is in a semi-primitive non-motorized zone. Evidence of e-bike/mountain bike trails would be less pronounced than routes wide enough to accommodate a full-sized vehicle and camping impacts are not anticipated due to the short length.</p>
Buckmaster/Tidwell Draw	Same as Alternative B.
Copper Globe/Lone Tree	Limiting SS4589 (Sagebrush Bench airstrip) to aircraft landings can diminish solitude as they are readily seen and heard from a wide ground area. This airstrip would affect hikers and canyoneers in the Devils Canyon Wilderness.
Front of the Reef	Opening North Fork Iron Wash SS2531 would reduce the approach hike for the challenging North Fork Iron Wash technical canyon by 0.4 miles (0.8 miles round-trip), which could be appreciated by canyoneers due to their need to carry equipment.
Mussentuchit/Last Chance	<p>Opening SS5389a Corral Canyon, which parallels the canyon at a distance of 0.1–0.2 miles, is not anticipated to result in road noise degradation of the canyoneering experience. However, having access to the route could improve it by allowing a shuttle with bike or vehicle. Setting a shuttle would eliminate 2.4 miles of road walking.</p> <p>SS5139 is located on the south rim of Chimney Canyon, an exceptionally scenic and remote backpacking area highlighted in several guide websites and books. Allowing vehicular travel on the rim of this canyon would diminish opportunities for solitude and tranquility.</p>
Sids Mountain/Wikiup	Same as Alternative B.
Surrounding Goblin Valley	The only change from Alternative A would be opening spur roads on Little Wild Horse Mesa providing vehicle access to scenic overlooks and dispersed camping opportunities.

### 3.3.4.3.5 Alternative D (Access Emphasis)

Alternative D's changes to the recreation experiences are approximated in Table 3-28's calculations of mileage in the ROS zones. Table 3-31 discusses the Alternative D's additional impacts to non-motorized activities within the route network geographic areas. The impacts described in Table 3-29 and Table 3-30 apply. Also, Alternative D's:

- Opening a higher density of routes in semi-primitive, non-motorized RSC zones in the Box Flat/Big Hole, Copper Globe/Lone Tree, Humbug/Chimney Rock, Grassy Trails, and Mounds route network geographic areas would reduce open spaces and could make it harder to find solitude in those areas. With the exception of some named trails/hiking areas (see Table 3-14), non-motorized recreation in these locations is not organized and users are likely to be intentionally seeking solitude away from named destinations and may be more sensitive to other users (motorized and non-motorized) and roads.
- Opening many short (<1 mile) spurs for parking and direct motor vehicle access to mines, historic features, and cultural sites which may detract from hiking opportunities, although in most cases the hikes are not long enough to constitute a meaningful "destination hike."
- Opening many short spurs which could be used for camping would also reduce remoteness for non-motorized recreationists in those areas and potentially impact the quality of overnight backcountry activities. This camping access could also benefit non-motorized recreationists where such spurs are near trailheads and backcountry access points.

**Table 3-31: Summary of Additional Impacts to Non-motorized Recreation Opportunities – Alternative D**

Route Network Geographic Area	Impact Summary
Behind the Reef	Opening routes leading to the wilderness boundary at the top of Chute Canyon (SS4318) and creating a loop at the top of Crack Canyon (SS4306), would increase vehicle camping opportunities in a high-use area near many hikes and increase the potential of visitor encounters and user conflicts. Since these areas are wash bottoms in confined canyons, other visitors are not readily avoided. Both routes are in semi-primitive non-motorized zones.
Black Dragon/Mexican Mountain	Same as Alternative C.
Box Flat/Big Hole	Same as Alternative C.
Buckhorn/Wedge	Same as Alternative C plus several more overlooks above the Little Grand Canyon which could reduce the sense of solitude for non-motorized recreationists in that area.
Buckmaster/Tidwell Draw	Same as Alternative C.
Copper Globe/Lone Tree	Same as Alternative C.
Front of the Reef	Same as Alternative C.
Mussentuchit/Last Chance	Same as Alternative C.
Sids Mountain/Wikiup	Same as Alternative C.

Route Network Geographic Area	Impact Summary
Surrounding Goblin Valley	Opening SS3083 in Cane Wash (Sids Mountain/Wickiup area) would add 0.7 miles of motor vehicle route where there is currently hiking route at the bottom of the wash as well as allowing motorists to drive up onto Calf Mesa. Motor vehicle use in the bottom of the wash would conflict with hikers, backpackers, and equestrian users. Furthermore, motorized use on Calf Mesa would impair the solitude of recreationists hiking the remote loop formed by Cane Wash, Calf Mesa, and the unnamed drainage east of Cane Wash off Calf Mesa. Calf Mesa is semi-primitive non-motorized area.

### 3.3.4.3.6 Alternative E (Public Comment Adjusted Alternative)

Alternative E's changes to the recreation experiences are approximated in Table 3-28's calculations of mileage in the ROS zones. Table 3-32 discusses the Alternative E's additional impacts to non-motorized activities within the route network geographic areas. The impacts described in Table 3-29 also apply. In general:

- Alternative E's greatest mileage increases are within the PFO ERMA. The higher density of routes does not leave large expanses of undeveloped backcountry in the ERMA.
- Alternative E opens motorized use on canyon rims in the San Rafael Swell SRMA which could diminish the tranquility and feelings of remoteness of non-motorized users in the canyons. Activities which could impair their solitude include visible headlights at night, noises/shouting, and drone overflights, the latter of which is occasionally reported in high-use areas such as the Wedge.
- Alternative E increases vehicular access to dispersed camping opportunities in the RMZs and historic sites and mines. This diversifies the users who are able to visit these sites. While non-motorized recreationists could still walk to them, research shows that these users are unlikely to enjoy hiking on an active road due to the noise and dust generated by vehicles and loss of opportunities for solitude. Conversely, camping opportunities could benefit non-motorized users wishing to car camp near their activity site (e.g., Mexican Mountain Road).

**Table 3-32: Summary of Additional Impacts to Non-motorized Recreation Opportunities – Alternative E**

Route Network Geographic Area	Impact Summary
Behind the Reef	<p>Designating the McKay Flat airstrip SS4226A as limited to aircraft landings can diminish solitude as they are readily seen and heard from a wide ground area. This airstrip sits between two wilderness cherry-stems, one of which is used to access a beginner-friendly, and thus relatively popular, technical canyon.</p> <p>Opening loops at the top of Wild Horse Canyon SS4283-84, and SS4288-89 would facilitate vehicle-based dispersed camping opportunities in a high-use area near many hikes. This area is a semi-primitive non-motorized ROS class. This would increase the likelihood of hikers and horseback riders encountering other visitors and/or be disturbed by motorized use, both of which are not preferred in the semi-primitive non-motorized zone. Since Wild Horse Canyon non-motorized use is confined by canyon walls, these encounters would not be readily avoidable by people existing the canyon. It would, however, open access to several campsites further from the main dispersed camping area which offer greater solitude than the many other campsites in the Temple Mountain area.</p>

Route Network Geographic Area	Impact Summary
Black Dragon/Mexican Mountain	Same as Alternative B.
Box Flat/Big Hole	The only change from Alternative A would be opening access to one additional overlook above Red Canyon, SS2209. This marginally reduces solitude to be found in the canyon as well as for hikers who are hiking the canyon's east and west forks as a loop, but to a lesser degree than Alternative D would.
Buckhorn/Wedge	<p>Opening Calf Canyon SS3083 would diminish opportunities for solitude in a popular hiking and climbing area.</p> <p>Opening SS3224, 25 (North Salt Wash overlooks) and SS3177 (Virgin Springs Canyon overlook) near the Wedge would diminish opportunities for solitude and tranquility sought by backpackers and river runners in the canyon. While visitation to these remote overlooks is expected to be low based on current visitor use patterns, recreationists at the bottom of the canyon (backpackers and river runners) likely have a higher sensitivity to obstructive activities due to the remoteness of their destination. Adverse impacts in this route network geographic area are likelier because the Wedge area is a high-use destination for motorists, North Salt Wash/the Little Grand Canyon are prominent destinations for backpacking in the SRMA, and the mouth of Virgin Springs Canyon has the best-established campsites in that corridor. The two overlooks near North Salt Wash are in a semi-primitive non-motorized zone.</p>
Buckmaster/Tidwell Draw	Same as Alternative B. In addition, SS2379 would provide a targeted recreation opportunity for vehicles under 66".
Copper Globe/Lone Tree	Limiting SS4589 (Sagebrush Bench airstrip) to aircraft landings can diminish solitude as they are readily seen and heard from a wide ground area. This airstrip would affect hikers and canyoneers in the Devils Canyon complex.
Front of the Reef	Alternative E strikes a balance between Alternatives B and C by providing access to remote places and connectivity throughout the network area while retaining expanses with no roads which afford solitude to non-motorized recreationists. For example, SS2419 up Shadscale Mesa is designated open but other spurs off it are closed. SS2489 is open to create a loop south from the Hatt Ranch Bypass Road (SS2412) back to Highway 6, but longer transect routes paralleling Highway 6 along the reef (SS2497, SS2498, SS2526) are closed.
Mussentuchit/Last Chance	Opening SS5389a Corral Canyon, which parallels the canyon at a distance of 0.1–0.2 mile, is not anticipated to result in road noise degradation of the canyoneering experience. However, having access to the route could improve it by allowing a shuttle with bike or vehicle. Setting a shuttle would eliminate 2.4 miles of road walking.

Route Network Geographic Area	Impact Summary
Sids Mountain/Wikiup	Same as Alternative B plus several short spurs and loops affording sightseeing and camping access around the Wickiup dispersed camping area, Head of Sinbad, and Cane Wash trail.
Surrounding Goblin Valley	Same as Alternative B minus Alternative B's closure of SS4432.

### 3.3.4.3.7 Cumulative Effects to Non-motorized Recreation

Miles of routes are used as an indicator of effects in the analysis area. Access to and management of the cumulative actions identified in the affected environment are route dependent. Therefore, Table 2-1, which lists the miles of routes by alternative, supplemented by Table 3-27, which lists the miles of routes by ROS type, indicates the potential for change in cumulative effects to non-motorized recreation. Note however that some of the cumulative actions may authorize travel on OHV-closed routes. Past, present, and foreseeable actions and trends were previously described in the cumulative actions portion of the Affected Environment. Cumulative effects of route authorization include varying levels of route density, the visibility of the routes – themselves, parking, vehicle-based dispersed camping, vehicles and associated noise and dust, and waste and trash deposited along the routes. These can disproportionately affect non-motorized recreationists who are seeking remoteness from other visitors and from motor vehicles, especially in semi-primitive non-motorized zones, near non-motorized trails and activity sites, and on canyon rims. The alternatives would add varying levels of and locations for aircraft low-altitude overflights. The alternatives would also add increased or decreased hiking distance to a point of interest and impact access to remote backcountry locations for those who intentionally avoid trails and established non-motorized activity sites. Finally, the alternatives have varying amounts of open or limited routes in semi-primitive non-motorized zones. These changes affect solitude and overall availability of non-wilderness open spaces and may result in changed levels of user conflicts. The magnitude of the effects is greatest where there is high non-motorized use such as near the Little Grand Canyon (Wedge/Buckhorn and Sids Mountain/Wickiup route network geographic areas), the front of the San Rafael Reef, and the Hidden Splendor area (Behind the Reef route network geographic area). Alternatives C, D, and E would contribute more accumulation of effect to non-motorized recreationists, non-motorized recreation sites, and semi-primitive non-motorized areas than Alternative B, with Alternative D contributing the greatest accumulation of effect especially to low-use backcountry sites.

## 3.3.5 SOILS

*Issue 6: How would the route network alternatives impact soil stability?*

*Issue 7: How would the route network alternatives impact soil health and erosion potential within the TMA?*

The analysis area for soils is the TMA because it is the smallest unit which shows all impacts to soils within the TMA. The temporal scope of analysis is 20 years (see Section 3.1.1).

### 3.3.5.1 Affected Environment

Soils within the TMA are diverse, ranging from areas composed of sand, which is erodible with wind, to areas composed of Mancos shale, which is highly erodible and compactible. OHV use of existing routes has altered soil properties (e.g., compaction). Roads within the sandy soils tend to shift due to wind scours and deposition. Roads within the Mancos shale have the potential for erosion via disturbance-created gullies as well as erosion caused by heavy precipitation events. Wet roads can be rutted by OHV use. Cryptobiotic soils, or biological soil crusts, can play important roles in maintaining soil and ecosystem

health and are present within the analysis area. A single vehicle pass will reduce nitrogen fixation by cyanobacteria and increase wind and water erosion of surface soils (Davidson et al. 1996). After a disturbance event, a thin veneer of cyanobacteria may return in 5 years. Recovery may take up to 20 years in places of higher rainfall and up to 250 years in places of lower rainfall, assuming an area is not again disturbed (Belnap 2001).

Evaluators used multiple geospatial datasets (such as geology and vegetation types) as well as specialist knowledge of the area to identify route-specific soil resource issues during the route evaluation process because a complete soil survey doesn't exist for the TMA. Therefore, soil impacts are estimated using number of routes as a comparison across alternatives. This approach overestimates the effects because one route crosses multiple soil types, so routes are counted more than once. See Table 2-1 for the total mileage of route designations under each alternative, and Table 3-11 for total mileages within certain vegetation types, which can be an indicator of soil types since vegetation tends to grow within certain soil types. Within the TMA, 1,343 evaluated routes (63% of the network) cross areas with high erosion potential and 1,866 evaluated routes (87% of the network) cross areas with moderate erosion potential. Additionally, 1,233 evaluated routes (57% of the network) are within 150 feet of cryptobiotic soils. See Table 3-33 and Table 3-34.

OHV-Closed designations protect soils and cryptobiotic soils. OHV-Open or OHV-Limited designations perpetuate effects to soils and cryptobiotic soils. Surface disturbances from off-route vehicle travel (e.g., passing or parking, particularly along minimally maintained routes, which tend to be narrower) can remove soil-stabilizing agents, such as vegetative cover, soil crusts, and woody debris, and increase soil compaction and erosion. Travel network implementation activities that may cause soil compaction or erosion include installing new signs, road maintenance consistent with the character and class of the route, and route reclamation.

Compaction from OHV use increases soil bulk density and decreases porosity (Assaeed et al. 2019). As soil compaction increases, the soil's ability to support vegetation diminishes because loss of porosity inhibits root penetration from accessing nutrients and water and reduces the infiltration and availability of water. Particularly on hillslopes, OHV use can accelerate water erosion by decreasing infiltration rates, loosening surfaces, and channeling run-off (Brooks and Lair 2005). Ouren et al. conclude, "As vegetative cover, water infiltration, and soil-stabilizing crusts are diminished or disrupted, the precipitation runoff rates increase, further accelerating rates of soil erosion" (2007).

Cumulative actions found in the analysis area are listed in Section 3.2.

- Use of travel routes can perpetuate compaction, rutting, contamination, and erosion from disturbed surfaces.
- Livestock grazing results in soil trampling, compaction, and erosion.
- Utilities and water developments result in compaction, contamination, and erosion from disturbed surfaces.
- Recreation leads to compaction, rutting, contamination, and erosion from disturbed surfaces.
- Mineral developments result in compaction, rutting, contamination, and erosion from disturbed surfaces.

### **3.3.5.2 Environmental Effects Analysis**

When creating the alternative route networks, the BLM evaluated soil resources and avoided or minimized effects at a route specific level considering the goal of the alternative and using resource-, route-, and alternative-appropriate measures including but not limited to closure (avoidance) and the minimization measures described in the Implementation Guide, Appendix H. When BLM identified disproportionately large OHV impacts to soils or unresolved conflicts, the BLM prioritized closure

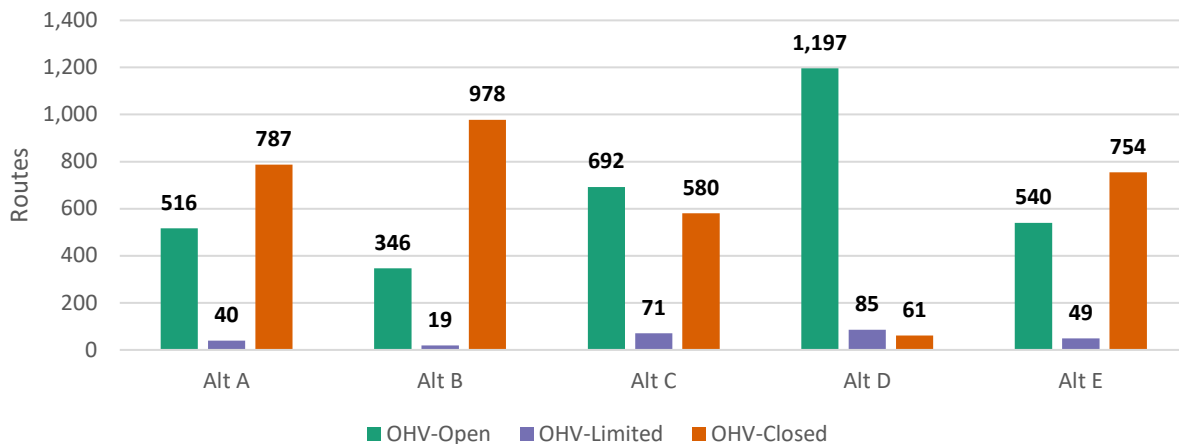
regardless of alternative. For open and limited routes, BLM would implement measures from Appendix H to monitor and minimize impacts.

The following assumptions and methodologies were applied in this analysis of potential effects on soils and cryptobiotic soils from the alternative designations:

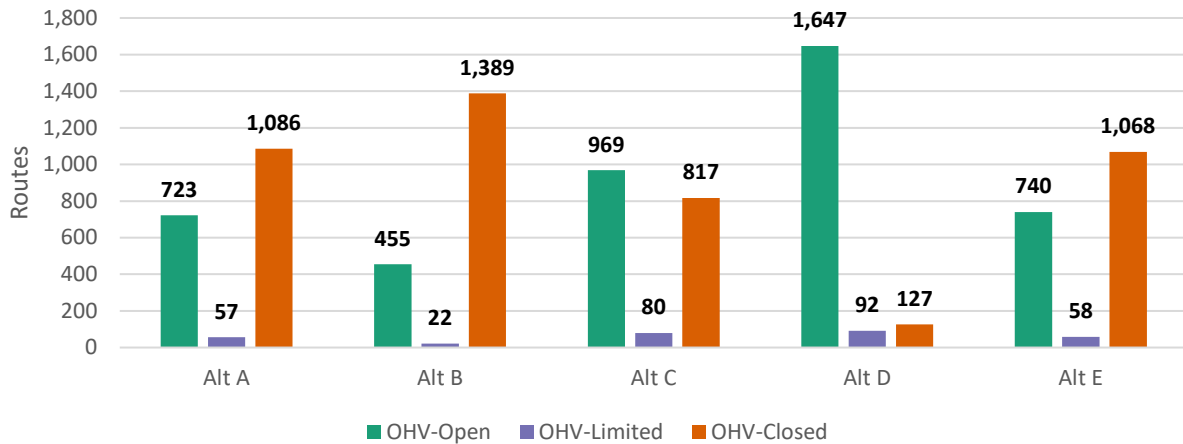
- Routes identified in the analysis directly cross the identified soil type.
- OHV-Closed designations would eliminate OHV effects to soils and cryptobiotic soils from those routes.
- Maintenance under this TMP will be appropriate to the class of road to ensure navigability for designated routes without changing the character, function, or recreation experience the route provides.

Numbers of routes located in soils with high or moderate erosion potential or in areas with cryptobiotic soils are used as indicators of potential OHV route designation impacts on soil health and stability (see Figure 3-10 – Figure 3-12). The nature of the effects will be the same across alternatives; however, the magnitude and location of the routes will vary. The magnitude can be judged using Figure 3-10, Figure 3-11, Figure 3-12, Table 3-33, and Table 3-34. OHV use of travel routes can remove soil-stabilizing agents, such as vegetative cover, soil crusts, and woody debris. TMP implementation activities that could result in compaction or erosion include route maintenance (e.g., surface and ditch blading.), reclamation (e.g., raking), and sign placement (e.g., digging post holes). These effects would occur in very short time frames (estimated to be one to four days' worth of work, though it may be longer for longer routes). TMP implementation activities (Appendix H) that could minimize effects by reducing compaction or erosion include sign placement directing OHVs to routes that are less disruptive to erosive and cryptobiotic soils. These effects would occur over longer timeframes.

**Figure 3-10: Number of Evaluated Routes Crossing Highly Erosive Soils**



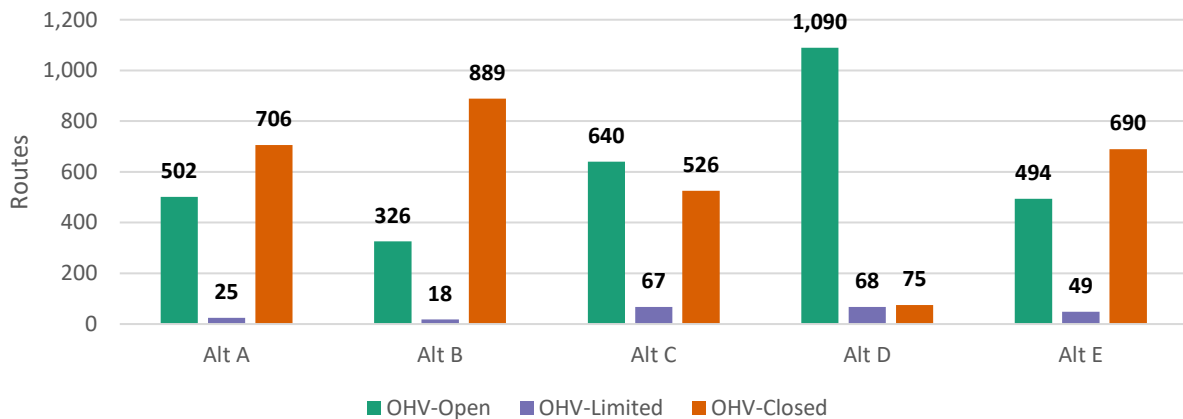
**Figure 3-11: Number of Evaluated Routes Crossing Moderately Erosive Soils**



**Table 3-33: Number of Evaluated Routes Crossing Highly and Moderately Erosive Soils**

		Alt. A	Alt. B		Alt. C		Alt. D		Alt. E	
	Designation	Routes	Routes	Change from Alt A (Routes)	Routes	Change from Alt A (Routes)	Routes	Change from Alt A (Routes)	Routes	Change from Alt A (Routes)
High Erosion Potential	OHV-Open	516	346	-170	692	+176	1,197	+681	540	+24
	OHV-Limited	40	19	-21	71	+31	85	+45	49	+9
	OHV-Closed	787	978	+191	580	-207	61	-726	754	-33
Moderate Erosion Potential	OHV-Open	723	455	-268	969	+246	1,647	+924	740	+17
	OHV-Limited	57	22	-35	80	+23	92	+35	58	+1
	OHV-Closed	1,086	1,389	+303	817	-269	127	-959	1,068	-18

**Figure 3-12: Number of Evaluated Routes within 150 Feet of Cryptobiotic Soils**



**Table 3-34: Number of Evaluated Routes in Cryptobiotic Soils**

	Designation	Alt. A	Alt. B		Alt. C		Alt. D		Alt. E	
		Routes	Routes	Change from Alt A (Routes)	Routes	Change from Alt A (Routes)	Routes	Change from Alt A (Routes)	Routes	Change from Alt A (Routes)
Cryptobiotic soil	OHV-Open	502	326	-176	640	+138	1,090	+588	494	-8
	OHV-Limited	25	18	-7	67	+42	68	+43	49	+24
	OHV-Closed	706	889	+183	526	-180	75	-631	690	-16

**3.3.5.2.1 Alternative A (No Action)**

Under Alternative A, there would be no route designation changes in the TMA. In areas with high soil erosion potential, 41% (556) of the evaluated routes would remain designated for OHV use (OHV-Open or OHV-Limited). In areas with moderate soil erosion potential, 42% (780) of the evaluated routes would remain designated for OHV use. Additionally, 43% (527) of the evaluated routes would remain designated for OHV use in areas with cryptobiotic soils resulting in soil compaction, erosion, rutting, etc.

**3.3.5.2.2 Alternative B (Resource Protection Emphasis)**

Alternative B would designate 365 evaluated routes for OHV use in highly erosive soils (a 34% reduction from Alternative A), 477 routes in moderately erosive soils (a 39% reduction from Alternative A), and 344 routes in areas with cryptobiotic soils (a 35% reduction from Alternative A). Under Alternative B, the same types of effects on soils and cryptobiotic soils would be expected to occur on those routes designated OHV-Open or OHV-Limited. This alternative would have the overall lowest potential of any alternative for OHV-related impacts on soils and cryptobiotic soils.

**3.3.5.2.3 Alternative C (Multiple Use Emphasis)**

Alternative C would designate 763 evaluated routes for OHV use in highly erosive soils (a 37% increase from Alternative A), 1,049 routes in moderately erosive soils (a 34% increase from Alternative A), and 707 routes in areas with cryptobiotic soils (a 34% increase from Alternative A). Under Alternative C, the same types of effects on soils and cryptobiotic soils would be expected to occur on those routes designated OHV-Open or OHV-Limited. This alternative would have higher potential than Alternatives A, B, and E but lower potential than Alternative D for OHV-related impacts on soils and cryptobiotic soils.

**3.3.5.2.4 Alternative D (Access Emphasis)**

Alternative D would designate 1,282 evaluated routes for OHV use in highly erosive soils (a 131% increase from Alternative A), 1,739 routes in moderately erosive soils (a 123% increase from Alternative A), and 1,158 routes in areas with cryptobiotic soils (a 120% increase from Alternative A). Under Alternative D, the same types of effects on soils and cryptobiotic soils would be expected to occur on those routes designated OHV-Open or OHV-Limited. Overall, this alternative would have the highest potential of any alternative for OHV-related impacts on soils and cryptobiotic soils.

**3.3.5.2.5 Alternative E (Public Comment Adjusted Alternative)**

Alternative E would designate 589 evaluated routes for OHV use in highly erosive soils (a 6% increase from Alternative A), 798 routes in moderately erosive soils (a 2% increase from Alternative A), and 543 routes in areas with cryptobiotic soils (a 3% increase from Alternative A). Under Alternative E the same types of effects on soils and cryptobiotic soils would be expected to occur on those routes designated

OHV-Open or OHV-Limited. This alternative would have higher potential than Alternatives A and B but lower potential than Alternatives C and D for OHV-related impacts on soils and cryptobiotic soils.

### 3.3.5.2.6 Cumulative Effects

For the reasons previously explained in section 3.3.5.1, miles of routes are used as an indicator of effects in the analysis area. Access to and management of the cumulative actions identified in the affected environment are route dependent. Therefore, Table 2-1, which lists the miles of routes by alternative, supplemented by Table 3-32 and 3-33 and Figures 3-10 through 3-12 also indicates the potential for change in cumulative effects to erosive soils and cryptobiotic soils. Note however that some of the cumulative actions may authorize travel on OHV-closed routes. Cumulative effects from past, present, and reasonably foreseeable projects and activities on soils and cryptobiotic soils includes compaction, erosion, and rutting as described in the affected environment.

Under Alternative A, there would be no route designation changes in the TMA. Impacts from ongoing OHV use would reflect a continuation of current conditions, and an overall incremental change to soils and native vegetation within the cumulative effects analysis area is not anticipated.

Alternatives B-E would add varying amounts of routes designated for public OHV use (OHV-Open or OHV-Limited) that would perpetuate route existence, but would not create any new routes. They would also close varying amounts of routes to public OHV use, though it would not affect any authorized use. Any reclamation associated with a route closure would eventually lessen and potentially remove soil-related impacts.

## 3.3.6 SPECIAL STATUS PLANTS (T&E AND SELECT BLM SENSITIVE PLANTS)

*Issue 8: How would the travel network alternatives impact Threatened & Endangered (T&E) plant species and select BLM Sensitive plants and their habitat within the TMA?*

The analysis area for Special Status Plants (T&E and Select BLM Sensitive Plants) is the entire TMA plus any 300-foot habitat buffers that extend outside the TMA because it is the smallest unit which shows all impacts to special status species and their habitats within the TMA. The temporal scope of analysis is 20 years (see Section 3.1.1). The analysis area includes the San Rafael Swell Recreation Area in which the Dingell Act calls for the protection, conservation, and enhancement of its natural and ecological resources.

### 3.3.6.1 Threatened and Endangered Plant Species

The T&E plant species which have the potential to occur in the TMA and are listed as Threatened or Endangered under the ESA and their habitats are summarized in Table 3-35. Additional details on habitat, threats, and trends for the ESA listed species below as well as the BLM sensitive species listed lower in this section can be found in the Biological Assessment developed by Price and Richfield BLM resource staff, the “Special Status Species” sections of the 2008 Price Proposed RMP/EIS (BLM 2008d, pages 3-36 to 3-49) and the 2008 Richfield Proposed RMP/EIS (BLM 2008f, pages 3-49 to 3-69), the 2008 Price RMP Biological Opinion (USFWS 2008a), and the 2008 Richfield RMP Biological Opinion (USFWS 2008b).

**Table 3-35: Threatened and Endangered Plants Species and Their Habitats**

Species	Status	Habitat Information
<b>3.3.6.1.1 Barneby reed-mustard</b> ( <i>Schoenocrambe</i> )	<b>Endangered</b>	Barneby reed-mustard is a perennial herb in the mustard family ( <i>Brassicaceae</i> ). It is endemic to Utah, where it is known only from Emery and Wayne Counties. Within the TMA, the known population of Barneby reed-mustard is found in and adjacent to

Species	Status	Habitat Information
<i>barnebyi</i> also known as <i>Hesperidanthus barnebyi</i>		<p>the Muddy Creek wilderness area in the Moenkopi and Chinle formations. Threats to this species at the time of listing were mainly mineral exploration and mining for uranium. For more details on habitat and threats, see Utah Reed-Mustards: Clay Reed-Mustard (<i>Schoenocrambe arigllaceae</i>) Barneby Reed-Mustard (<i>Schoenocrambe barnebyi</i>) Shrubby Reed-Mustard (<i>Schoenocrambe suffrutescens</i>) Recovery Plan (USFWS 1994) and <i>Schoenocrambe barnebyi</i> (Barneby Reed-Mustard) 5-Year Status Review (USFWS 2011, 2021a)</p> <p>Within the population there are two known sites for this plant on BLM lands, and one site on state lands. Site visits and monitoring have occurred since 2012 and no additional disturbance from mining activities, grazing or recreation use have been observed. The fluctuations in numbers of individuals appear to be in response to available moisture and growing conditions, as disturbance from mining, recreation and grazing have not been observed.</p> <p>38 percent or 304,043 acres of the potential habitat is within designated Wilderness and 50% of the occupied habitat is within designated Wilderness.</p>
3.3.6.1.2 Jones cycladenia ( <i>Cycladenia humilis</i> var. <i>jonesii</i> )	Threatened	<p>Jones cycladenia is a long-lived, clonal reproducing perennial species found within the Colorado Plateau ecoregion. This species grows at elevations between 4,000' and 6,000' on steep, gypsiferous, saline soils of the Chinle and Summerville geologic formations. USFWS's 2021 Biological Report for Jones Cycladenia identified several recovery units and populations to facilitate management of the species. Within the TMA, there is one recovery unit, the San Rafael Recovery Unit. The San Rafael Swell Recovery Unit is the largest unit and supports 41 percent of the known Jones cycladenia (USFWS 2021e). The majority of plants within the San Rafael Swell Recovery units are on gradual slopes that are more easily accessible to stressors and threats than those in other recovery units (Sansom and Elliott 2012). Ongoing impacts to habitat include off-highway vehicle use, oil, gas, and mineral exploration, including uranium mining and tar sands. For details on habitat, threats, and trends see the Draft Biological Report for Jones Cycladenia (USFWS 2021b) and the Recovery Outline for the Jones Cycladenia (USFWS 2008c).</p> <p>A habitat model was developed in 2011. Large survey efforts within the Price Field Office occurred in the high and moderate potential habitats from 2011 to 2014. No new populations or occurrences were found outside the recovery unit. Within the TMA there are 568,456.37-acres of Jones cycladenia potential habitat and 257,044.25-acres (or 45%) are within a Wilderness Area. The occupied habitat is within the Front of the Reef Route Network Geographic area.</p>
3.3.6.1.3 Last Chance townsendia ( <i>Townsendia aprica</i> )	Threatened	<p>Last Chance townsendia is a narrow endemic to south-central Utah in Emery, Sevier, and Wayne counties Within the TMA, it can primarily be found south of I-70 from the western boundary of the Swell to the foothills of the Wasatch Plateau, with occurrences increasing with elevation. There are 1,846,833.32-</p>

Species	Status	Habitat Information
		acres of total USFWS potential habitat for Last Chance townsendia (USFWS 2022a). Of these acres, approximately 769,609.47-acres (or 42%) are within the TMA. Survey efforts to revisit known sites within the Price Field Office and the TMA were made between 1993 and 2012, and overall showed high variability in the number of plants between years. It was listed due to threats from mineral development, road building, OHV use, and livestock grazing. In the 2013 Five-year review other threats included climate change, oil and gas development and others (USFWS 2019a). For more details on habitat, threats, and trends, see Last Chance Townsendia Recovery Plan (USFWS 1993b) and Last Chance Townsendia 5-Year Review (USFWS 2013, USFWS 2019a).
<b>3.3.6.1.4 San Rafael cactus (<i>Pediocactus despainii</i>)</b>	<b>Endangered</b>	<p>The San Rafael cactus is a member of the cactus (Cactaceae) family. It is endemic to the Colorado Plateau and only occurs in several populations in central and south-central Emery County. San Rafael cactus can be found throughout much of the TMA. It grows in a wide variety of soils, although it may favor fine-textured, mildly alkaline soils rich in calcium, where it is known from limestone substrates of the Carmel Formation and the Sinbad member of the Moenkopi formation. It has also been found on shale barrens of the Brushy Basin member of the Morrison Formation, the Mancos, Dakota, and Entrada Formations, and in areas with soils composed of primarily alluvium and colluvium from 4,760-6,820 feet in elevation. There are 3,468,860 acres of potential habitat, and about 1,144,628 acres or 30% is found within the TMA. Much of the habitat, 365,052 acres, is within designated Wilderness Areas. The majority, 80%, of the occupied habitat of this species occurs within the boundaries of the TMA. For more details on habitat, threats, and trends, see the Winkler Cactus (<i>Pediocactus winkleri</i>) and San Rafael Cactus (<i>Pediocactus despainii</i>) Draft Recovery Plan (USFWS 2015) and the Winkler Cactus (<i>Pediocactus winkleri</i>) and San Rafael Cactus (<i>Pediocactus despainii</i>) 5-Year Review (USFWS 2019b).</p> <p>Six of the Route Network Geographic Areas contain the majority of the occupied habitat, and route designations within these geographic areas are especially important to this species; Behind the Reef, Buckhorn/Wedge, Coal Cliffs, Humbug Chimney Rock, Moore cutoff/Dutch Flats, and North Jurassic/flat top.</p>
<b>3.3.6.1.5 Ute ladies'-tresses (<i>Spiranthes diluvialis</i>)</b>	<b>Threatened</b>	<p>Ute ladies'-tresses is a perennial orchid found in wetland ecosystems, including along perennial streams and rivers, in groundwater-fed meadows, and along human created wetland systems (Fertig et al. 2005). The range of the species includes Colorado, Nevada, Utah, Idaho, Montana, Nebraska, Washington, Wyoming, and British Columbia. The closest known population to the TMA is located approximately 9 miles to the northwest. BLM used the USFW Species Status Assessment Report of the Ute Ladies' Tresses to identify the potential habitat as well as identify the 6-digit HUCs or analytical units (USFWS 2023c). Stressors to the species include limited habitat availability and reduced resiliency. The Species</p>

Species	Status	Habitat Information
		<p>Status Assessment Report for Ute Ladies Tresses (<i>Spiranthes diluvialis</i>) (USFWS 2023c) and the draft recovery plan (USFWS 1995b) provide more details on habitat requirements and stressors.</p> <p>The Swell TMA is within the Lower Green analytical unit. This unit contains a large amount of unsurveyed habitat that has been modeled as potential habitat for Ute ladies'-tresses. The acres of potential habitat used for this analysis were calculated using a refined species habitat model with a 300-foot buffer. The refined model calculated 874 acres of potential habitat.</p>
<b>3.3.6.1.6</b> <b>Winkler cactus</b> <i>(Pediocactus winkleri)</i>	<b>Threatened</b>	<p>Winkler cactus is known only from Wayne County and extreme southeastern Sevier County. Winkler cactus is endemic to specific, fine-textured soils derived from the Dakota and Morrison Formations in the lower Fremont River-Notom area, and from the Entrada, Morrison, and Summerville Formations in Capitol Reef National Park. For more details on habitat and threats, see the Winkler cactus (<i>Pediocactus winkleri</i>) and San Rafael cactus (<i>Pediocactus despainii</i>) Draft Recovery Plan (USFWS 2015). San Rafael cactus and Winkler cactus are closely related and appear to have a blending of morphological characteristics where their ranges overlap. The ranges overlap near the southern boundary of the TMA, with Winkler cactus range trending farther south and San Rafael cactus range trending farther north across the TMA. For the analysis of this TMP all the known individuals and occupied habitat within the TMA were considered as San Rafael cactus. However, due to the limited overlap, the analysis of potential habitat for both species was considered individually. There are 593,437 acres of potential habitat and 97,242 are within the TMA. Of that acreage, 34,517 acres are within designated wilderness.</p>
<b>3.3.6.1.7</b> <b>Wright fishhook cactus</b> <i>(Sclerocactus wrightiae)</i>	<b>Endangered</b>	<p>Wright fishhook cactus is endemic to Emery, Sevier and Wayne counties, Utah, and is widespread and common throughout the TMA. Wright fishhook cactus occurs on a variety of geologic formations, including the Morrison, Cedar Mountain, Carmel, Entrada, Curtis, and Summerville formations, and Mancos Shale Formation. The species occurs at elevations between 4,200 and 7,600 feet (1,280 – 2,320 meters) on flat areas, low ridges, gentle slopes, and rarely in sandstone crevices. There are approximately 456,197 acres of potential habitat within the TMA, according to the USFWS current range GIS layer (USFWS 2018b). This accounts for 46 percent of the entire species range. Of the potential habitat 113,898 acres occurs within the designated Wilderness. The Wright Fishhook Cactus (<i>Sclerocactus wrightiae</i> Benson) Recovery Plan (USFWS 1985b) notes that cacti are rare or absent where cryptobiotic crusts have been destroyed or are undeveloped. For more details on habitat, threats, and trends, see the Wright Fishhook Cactus (<i>Sclerocactus wrightiae</i> L. Benson) 5-Year Review: Summary and Evaluation (USFWS 2008d) and the NRCS plant guide on Wright fishhook cactus (NRCS 2011).</p>

### 3.3.6.2 Affected Environment

The analysis area is the TMA plus any 300-foot habitat buffers that extend outside the TMA because it is the smallest unit that shows all impacts to species within the TMA. Analysis of impacts was done by buffering modeled or potential habitat for each species by 300 feet to account for the spread of fugitive dust (USFWS 2021d) and then calculating the total acreage of modeled or potential habitat. Within the analysis area, threats to listed plant species from past, present, and reasonably foreseeable actions as listed in Section 3.1 include OHV use, Category 1 road maintenance (see Appendix H), grazing and trampling by livestock, mining and quarrying, competition from invasive noxious weeds, and climate change. Specifically, OHV use, including incidental use such as passing, parking, and staging, and associated maintenance (see Section H.4 in Appendix H) may result in adverse impacts to BLM sensitive plants and their pollinators including crushing of plants or pollinators, fugitive dust deposition reducing stomatal conductance, increased transpiration rates, increased leaf temperature, decreased photosynthetic rates, decreased reproductive rates (Farmer 1993, Goossens and Buck 2009, USFWS 2010) and with its attendant species competition and habitat alteration. Route networks with open or limited designations can contribute to the effects described above. Closed designations eliminate OHV use effects, thereby benefiting special status plant species.

### 3.3.6.3 Environmental Effects Analysis

When creating the alternative route networks, the BLM evaluated special status plant resources and avoided or minimized effects at a route specific level considering the goal of the alternative and using resource-, route-, and alternative-appropriate measures including but not limited to closure (avoidance) and the minimization measures described in the Implementation Guide, Appendix H. When BLM identified disproportionately large OHV impacts to special status plants or unresolved conflicts, the BLM prioritized closure regardless of alternative. For open and limited routes, BLM would implement measures from Appendix H to monitor and minimize impacts.

The nature of the impacts of Alternatives A through E are the same as previously described. TMP implementation activities (Appendix H) that could remove, crush, or dust special status plants include route maintenance (e.g., surface and ditch blading.), reclamation (e.g., raking), and sign placement (e.g., digging post holes). These effects would occur in very short time frames (estimated to be one to four days' worth of work, though it may be longer for longer routes). TMP implementation activities (Appendix H) that could minimize impacts to special status plants include sign placement directing OHVs to routes that are less disruptive to special status plant habitat, maintenance of existing routes to repair route drainage and avoid users driving around washed out areas, enforcement of the route network, monitoring of route effects, and reclamation of routes as appropriate. These effects would occur over longer timeframes.

Table 3-36 shows the difference in the magnitude of the impacts between the alternatives. It displays the acres of potential special status plant habitat within 300 feet of routes designated for OHV use (OHV-Open or OHV-Limited) under each alternative. The other variation between the alternatives is which routes are open, as displayed in the alternatives maps (see Map 2 – Map 6). For a description of the Endangered Species Act Section 7 Consultation, see Section 4.1.3.

**Table 3-36: Acres of ESA Listed and Select Sensitive Plant Species Potential Habitat within 300 feet of OHV-Open or OHV-Limited Routes by Alternative**

Species	Conservation Status	Acres of Potential Habitat in TMA	Alternative A Potential Habitat Impacted (Acres)	Alternative B Potential Habitat Impacted (Acres)	Alternative C Potential Habitat Impacted (Acres)	Alternative D Potential Habitat Impacted (Acres)	Alternative E Potential Habitat Impacted (Acres)
Barneby reed-mustard	Endangered	801,100	58,258	49,661	67,175	79,217	60,560
Jones cycladenia	Threatened	568,456	38,652	31,444	48,057	56,623	41,441

Last Chance townsendia	Threatened	769,609	53,093	46,944	61,950	74,446	55,779
San Rafael cactus	Endangered	1,144,628	82,757	71,071	95,517	116,797	86,551
Ute ladies'-tresses	Threatened	874	69	26	86	132	49
Winkler cactus	Threatened	593,437	5,041	3,836	5,466	5,911	4,868
Wright fishhook cactus	Endangered	455,868	25,791	22,085	30,242	38,271	26,357
Maguire Daisy	Sensitive	830,522	55,547	47,119	63,114	75,528	57,464
Creutzfeldt-flower	Sensitive	52,699	3,796	3,730	6,428	8,330	4,629
Psoralea Globemallow	Sensitive	528,865	38,520	29,187	49,249	59,586	41,380

<sup>[1]</sup> Habitat descriptions come from BLM specialists and NSE 2024.

### 3.3.6.3.1 Alternative A (No Action)

Under Alternative A, the effects described previously and quantified in Table 3-36 would continue to occur on those routes designated OHV-Open and OHV-Limited. Under Alternative A, there would be no route designation changes in the TMA. Appendix C has details about plant habitats within the Route Network Geographic Areas. Table 3-17 shows routes that are closed in the geographic areas important to these species. All the species in Table 3-35 have roads designated as open within potential habitat, and therefore there is potential for impacts to acres of potential habitat. Of the 10 species, 7 species have roads designated as open within occupied habitat and therefore potential for direct and indirect impacts to acres of occupied habitat. Under this alternative, impacts to the T and E species and the BLM sensitive species would be a continuation of current impacts.

### 3.3.6.3.2 Alternative B (Resource Protection Emphasis)

Under Alternative B, some routes with known direct resource conflicts for T&E plant species were closed. The Alternative B travel network would reduce acres of impacts compared to Alternative A. The effects described above would occur on those routes designated OHV-Open or OHV-Limited, though at a reduced magnitude and on fewer routes. Compared to Alternative A, Alternative B would reduce the mileage of routes designated as open within all the species' potential habitat, therefore reducing the acres of potential habitat impacted by routes designated as open. Appendix C has details about plant habitats within the Route Network Geographic Areas. The habitat for the San Rafael cactus was the most affected by this alternative because of several route closures within the occupied and potential habitat reduced the acres impacted by over 10,000 acres. Please reference Table 3-35 to identify the difference in magnitude of Alternative B. Alternative B would have the lowest potential of any alternative for OHV use-related impacts to habitat for each listed plant species in the TMA. Appendix C has details about plant habitats within the Route Network Geographic Areas. Table 3-17 shows routes that are closed in the geographic areas important to these species.

### 3.3.6.3.3 Alternative C (Multiple Use Emphasis)

Under Alternative C, some routes with known direct resource conflicts for T&E plants were closed. The Alternative C travel network would increase acres of impacts compared to Alternative A. The effects described above from the evaluated routes and related use and maintenance would continue to occur on those routes designated OHV-Open or OHV-Limited at an increased magnitude and on more routes. Compared to Alternative A, Alternative C would increase the miles of routes designated as open within all the species' potential habitat and occupied habitat, therefore increasing the acres of potential habitat impacted by routes designated as open from Alternative A and B. Appendix C has details about plant habitats within the Route Network Geographic Areas. Table 3-17 shows routes that are closed in the geographic areas important to these species. The habitat for the San Rafael cactus was the most affected by this alternative with an increase from Alternative A of over 10,000 acres of potential habitat affected. Please reference Table 3-35 to identify the difference in magnitude of Alternative B.

#### **3.3.6.3.4 Alternative D (Access Emphasis)**

Under Alternative D, the travel network acreage with direct resource conflicts for T&E plants increases compared to Alternative A. The effects described above would occur on those routes designated OHV-Open or OHV-Limited. Compared to Alternative A, Alternative D would increase the mileage of routes designated as open within all the species' potential habitat, therefore increasing the acres of potential habitat impacted by routes designated as open. Appendix C has details about plant habitats within the Route Network Geographic Areas. Table 3-17 shows routes that are closed in the geographic areas important to these species. The habitat for the San Rafael cactus was the most affected by this alternative with an increase from Alternative A of over 30,000 acres of potential habitat affected. Several additional routes designated as open within the occupied and potential habitat increase the acres affected by this alternative. Please reference Table 3-35 to identify the difference in magnitude of Alternative D. Alternative D would have the highest potential of any alternative for OHV use-related impacts to habitat for listed plant species in the TMA.

#### **3.3.6.3.5 Alternative E (Public Comment Adjusted Alternative)**

Under Alternative E, some routes with known direct resource conflicts for T&E plants were closed. Appendix C has details about plant habitats within the Route Network Geographic Areas. Table 3-17 shows routes that are closed in the geographic areas important to these species. Riparian habitats were avoided, thus a reduction in acres affected for Ute ladies'-tresses potential habitat from alternative A. There was also a slight reduction in acres of potential habitat affected for Winkler cactus compared to alternative A. The rest of the species have a slight increase in acres of potential habitat affected compared to Alternative A. The impacts from this alternative are slightly less than Alternative C. Compared to Alternative D, all the species had a reduction in acres affected; the San Rafael cactus has the largest reduction in potential habitat affected from Alternative D, with a reduction of 30,000 acres of potential habitat affected. Please reference Table 3-35 to identify the difference in magnitude of Alternative E. The effects described above from the evaluated routes and related use and maintenance would continue to occur on those routes designated OHV-Open or OHV-Limited at an increased magnitude and on more routes; however, this alternative also closed many routes that had known impacts to several of these species.

#### **3.3.6.3.6 Cumulative Effects**

The past, present and foreseeable trends and activities listed in Section 3.3.6.2 that occur within the TMA accumulate crushing of plants or pollinators, fugitive dust deposition reducing stomatal conductance, increased transpiration rates, increased leaf temperature, decreased photosynthetic rates, decreased reproductive rates, and weed spread with its attendant species competition and habitat alteration. Travel routes open to OHV use also provide access for rare plant collectors to poach T&E plants. Since access to and management of the cumulative actions identified in the affected environment are route dependent, Table 2-1, which lists the miles of routes by alternative, supplemented by Table 3-35, which lists the acres of habitat affected by alternative, indicates the potential for change in cumulative effects to vegetation resources. Note however that some of the cumulative actions may authorize travel on OHV-closed routes.

Under Alternative A, there would be no route designation changes in the TMA. Impacts from ongoing OHV use would reflect a continuation of current conditions, and an overall incremental change to special status species within the cumulative effects analysis area is not anticipated.

Alternatives B-E would add varying amounts of routes designated for public OHV use (OHV-Open or OHV-Limited) that would perpetuate route existence but would not create any new routes. These alternatives would also close varying amounts of routes to public OHV use, though it would not affect any authorized use. Any reclamation associated with a route closure would eventually lessen and potentially remove special status species-related impacts.

### 3.3.7 VISUAL RESOURCES

*Issue 9: How would the travel network alternatives impact visual resources within the TMA?*

The spatial analysis area for visual resources is the TMA and the lands within its viewshed. This covers the area that could be incrementally impacted by the action alternatives. The temporal scope of analysis is 20 years (see Section 3.1.1). The analysis area includes the San Rafael Swell Recreation Area in which the Dingell Act calls for the protection, conservation, and enhancement of its natural and scenic resources.

#### 3.3.7.1 Affected Environment

Visual resources in the TMA include dramatic features such as the Wedge Overlook, San Rafael Reef, Mexican Mountain, Temple Mountain, and Buckhorn Draw that attract high levels of visitation because “they provide visual evidence of the geologic processes that created the San Rafael Swell” (BLM 2008d). The desert river corridors of Muddy Creek, the Price River, and the San Rafael River offer outstanding scenic characteristics with their array of desert river landscapes such as river oxbows, deep canyons, and lush riparian habitats. The I-70 Scenic ACEC is managed to maintain the scenic qualities of the San Rafael Swell where the interstate bisects the area.

The quality of visual resources is *measured* with visual resource inventory (VRI) classes. See Table 3-37 for VRI classes in the TMA and the miles of evaluated routes in those classes. VRI classes are assigned through an inventory process and serve as the basis for considering visual values. As noted in the BLM’s visual resource inventory manual, “Inventory classes are informational in nature and provide the basis for considering visual values in the RMP process. They do not establish management direction and are not used as a basis for constraining or limiting surface disturbing activities” (BLM 1986). Class I is assigned to those areas where a management decision has been made previously to maintain a natural landscape. Classes II, III, and IV are assigned based on a combination of scenic quality, sensitivity level, and distance zones, with Class I containing the highest visual quality and Class IV the lowest visual quality. An inventory of visual resources for BLM lands in the TMA was conducted in 2011. For more details on the visual resource inventory that covers the TMA, see the BLM’s Visual Resource Inventory for Price Field Office and the Visual Resource Inventory for Richfield Field Office, both dated November 2011.

Visual resources in the TMA are *managed* in accordance with the 2008 RMPs. See Map 12 and Table 3-38 for VRM Classes in the TMA and the miles of evaluated routes in those classes. Visual resource management (VRM) is a process the BLM uses to manage scenic values to reduce visual impacts of development or other surface-disturbing activities on public lands. There are four visual resource classes: I, II, III, and IV. Class I is assigned to areas where management decisions have been made to maintain natural landscapes. The objective of Class II is to retain the existing character of the landscape. The objective of Class III is to partially retain the existing character of the landscape and Class IV is assigned where decisions allow for activities that involve major landscape character modification. VRM classes are assigned through RMPs and are used as a basis for management (BLM 1986). For more details on visual resources management in the TMA, see pages 3-34 to 3-36 of the 2008 Price Proposed RMP/EIS (BLM 2008d) and pages 3-47 to 3-48 of the 2008 Richfield Proposed RMP/EIS (BLM 2008f). For more details on visual resource classes and how they are determined, see the BLM’s Visual Resource Inventory manual (BLM 1986).

The areas of highest visual quality in the TMA as identified by the Price and Richfield inventories are in newly designated wilderness areas and the I-70, Muddy Creek, San Rafael Canyon (upper and lower portions), San Rafael Reef, and Segers Hole ACECs. VRM II within the TMA extends along the Price River, the San Rafael River, Muddy Creek, in Jurassic National Monument, and through other areas in the heart of the Swell and southwest of Goblin Valley State Park. The rest of the TMA is managed as VRM Class III and Class IV.

**Table 3-37: Acres and Miles of Evaluated Routes by VRI Class**

VRI Class	BLM-VRI Acres within TMA	Miles within VRI class
VRI Class I	259,377	77
VRI Class II	431,208	957
VRI Class III	312,335	777
VRI Class IV	145,018	349

**Table 3-38: Acres and Miles of Evaluated Routes by VRM Class**

VRM Class	BLM –VRM Acres within TMA	Miles within VRM class
VRM Class I	320,208	265
VRM Class II	285,357	644
VRM Class III	403,866	965
VRM Class IV	134,271	269

Cumulative actions found in the analysis area are listed in Section 3.2.

- Use of travel routes can perpetuate dust in the viewshed. The existence of travel routes perpetuates form, line, and color contrasts in the viewshed.
- Farmland agricultural practices (see Table 1-4), utilities, and water developments result in dust, form, line, and color contrasts in the viewshed that are rural or industrial in character.
- Mineral development results in form line, and color contrasts in the viewshed that are industrial in character.

Existing travel routes and OHV use can inadvertently contribute to damage and disruption to the natural appearance of landscapes by providing OHV access opportunities for route proliferation (i.e., unauthorized user-created OHV routes extending off existing routes). OHV use on dirt roads can increase dust levels in the air, the extent of which depends on traffic characteristics and road quality (Etyemezian et al. 2003). In turn, the presence of dust particles in the air can reduce viewsheds (Duniway et al. 2019). Routes also impact visual resources by creating contrasting lines where they do not follow natural landscape contours. Because they lack formal design and construction standards, user-created routes may not follow ground contours and can extend up slopes, leading to rilling, erosion, and contrasting lines. Finally, eroded hillsides from travel in highly erosive soils and weed spread or introduction can also result in a change in form, line, and color and create contrasts that impair visual quality.

VRM I and II classes are managed for, and VRI I and II areas were found to contain, high quality visual resources despite the presence of the above listed existing routes and other cumulative actions. VRM classes III and IV accounted for the changes in form, line, and color from those existing routes and other cumulative impacts.

### **3.3.7.2 Environmental Effects Analysis**

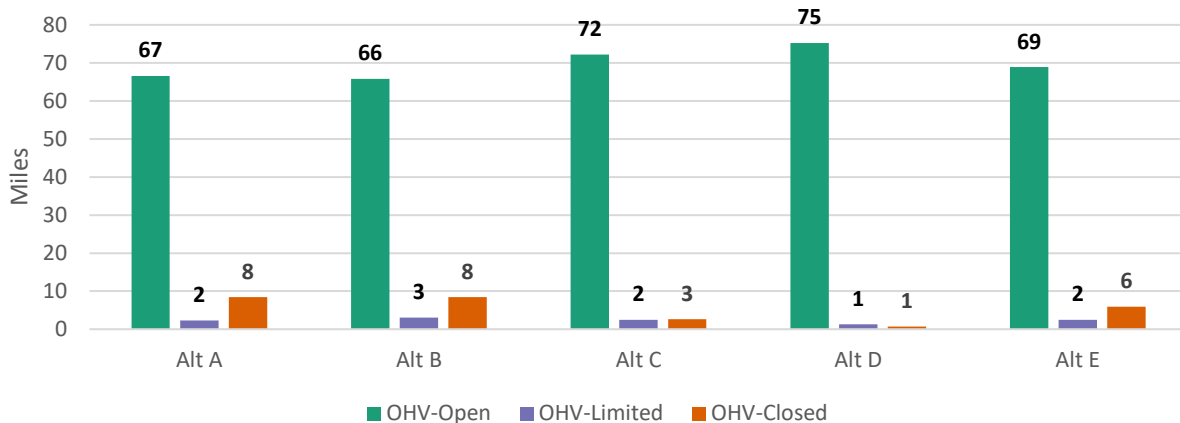
When creating the alternative route networks, the BLM evaluated visual resources and avoided or minimized effects at a route specific level considering the goal of the alternative and using resource-, route-, and alternative-appropriate measures including but not limited to closure (avoidance) and the minimization measures described in the Implementation Guide, Appendix H. When BLM identified disproportionately large OHV impacts to visual resources or unresolved conflicts, the BLM prioritized closure regardless of alternative. For open and limited routes, BLM would implement measures from Appendix H to monitor and minimize impacts.

Figure 3-13 – Figure 3-16, Table 3-39, and Table 3-40 inform the effects analysis for visual resources. They present the miles of routes in VRI and VRM Class I and Class II areas in the TMA. Analysis does not include Class III and IV because they allow for changes in form, line, and color and would not

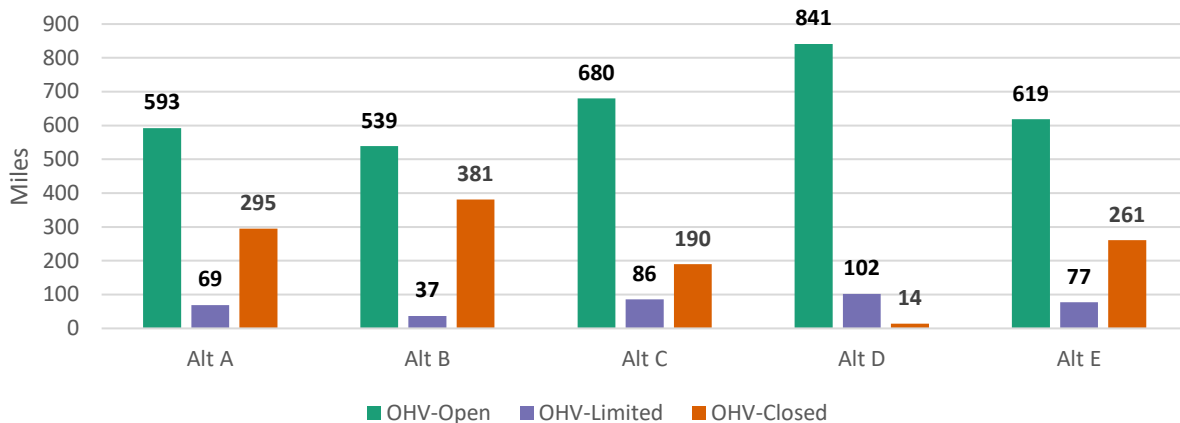
provide for a useful comparison between alternatives. Specifically, OHV use, including incidental use such as passing, parking, and staging, and associated maintenance (see Section H.4 in Appendix H) may perpetuate the form, line, color, and dust impacts to visual resources that are already occurring on routes that are currently OHV-Open or OHV-Limited, and would add the dust impacts to routes that are currently managed as OHV-Closed. The application of specified operation and management tools provided in the TMP Implementation Guide (Appendix H)—such as route markers and signs to educate OHV users of low-impact and responsible use, enforcement of the route network, monitoring of the effects, and reclamation where appropriate—would help minimize impacts to the visual elements of line, form, and color. Regardless of the final designation of each travel route, it is assumed there may be some form of follow-up action on the ground. For routes designated for OHV use, maintenance actions may include the use of heavy equipment for route maintenance consistent with the character and class of the route. The effects of these actions on visual resources are expected to be minor and short-term but are included in this analysis. Overall, all alternatives will result in some routes being closed, thereby eliminating OHV-related dust impacts from those routes on the landscape. Any reclaimed routes would minimize the route network footprint on the landscape by decreasing visual contrast to the natural-appearing landscape.

The nature of the effects will be the same across alternatives, however the magnitude and location of the routes will vary. The magnitude can be judged using Figure 3-13 – Figure 3-16, Table 3-39, and Table 3-40. The location of the effects can be judged using Map 12.

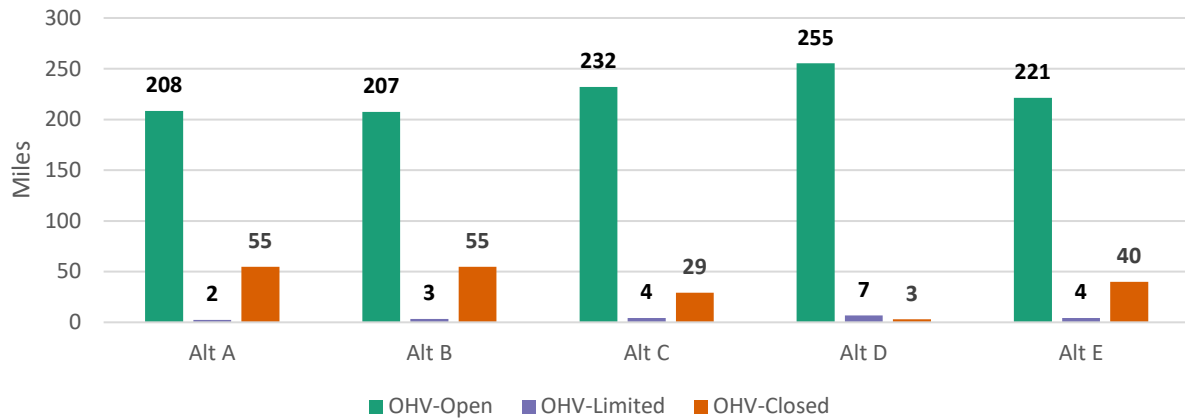
**Figure 3-13: Miles of Evaluated Routes in VRI Class I Areas**



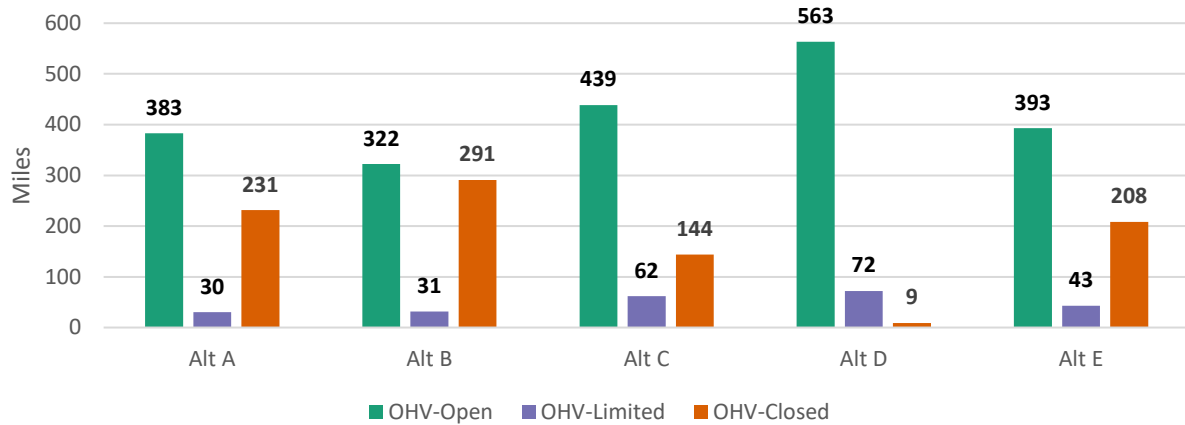
**Figure 3-14: Miles of Evaluated Routes in VRI Class II Areas**



**Figure 3-15: Miles of Evaluated Routes in VRM Class I Areas**



**Figure 3-16: Miles of Evaluated Routes in VRM Class II Areas**



**Table 3-39: Miles of Evaluated Routes in Visual Resource Inventory Classes**

		Alt. A	Alt. B		Alt. C		Alt. D		Alt. E	
	Designation	Miles	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)
VRI Class I	OHV-Open	67	66	-1	72	+6	75	+9	69	+2
	OHV-Limited	2	3	+1	2	+0	1	-1	2	+0
	OHV-Closed	8	8	-0	3	-6	1	-8	6	-2
VRI Class II	OHV-Open	593	539	-53	680	+88	841	+249	619	+26
	OHV-Limited	69	37	-33	86	+17	102	+33	77	+8
	OHV-Closed	295	381	+86	190	-105	14	-282	261	-34

**Table 3-40: Miles of Evaluated Routes in Visual Resource Management Classes**

	Designation	Alt. A	Alt. B		Alt. C		Alt. D		Alt. E	
		Miles	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)
VRM Class I	OHV-Open	208	207	-1	232	+24	255	+47	221	+13
	OHV-Limited	2	3	+1	4	+2	7	+5	4	+2
	OHV-Closed	55	55	-0	29	-26	3	-52	40	-15
VRM Class II	OHV-Open	383	322	-60	439	+56	563	+181	393	+10
	OHV-Limited	30	31	+1	62	+31	72	+42	43	+13
	OHV-Closed	231	291	+59	144	-87	9	-222	208	-23

**3.3.7.2.1 Alternative A (No Action)**

Under Alternative A, there would be no route designation changes in the TMA. In VRI Class I areas, 90% (69 miles) of evaluated routes would remain designated for OHV use. None of the 8 miles designated as OHV-Closed were identified as suitable for reclamation due to lack of administrative uses. In VRI Class II areas, 69% (662 miles) of evaluated routes would remain designated for OHV use. 0.16 of the 295 miles designated as OHV-Closed were identified as suitable for reclamation due to lack of administrative uses.

In VRM Class I areas, 79% (210 miles) of evaluated routes would remain designated for OHV use. None of the 55 miles designated as OHV-Closed were identified as suitable for reclamation due to lack of administrative uses. In VRM Class II areas, 64% (413 miles) of evaluated routes would remain designated for OHV use. 0.16 of the 231 miles designated as OHV-Closed were identified as suitable for reclamation due to lack of administrative uses. Impacts to the TMA's visual resources (e.g., degradation of visual quality, disruption of natural appearances, etc.) would reflect a continuation of current designations. See Appendix H.7 for the routes that are suitable for reclamation.

**3.3.7.2.2 Alternative B (Resource Protection Emphasis)**

In VRI Class I areas, Alternative B would designate 69 miles for OHV use, virtually the same as Alternative A; 7 of the 8 miles designated as OHV-Closed were identified as suitable for reclamation due to lack of administrative uses. In VRI Class II areas, Alternative B would designate 576 miles for OHV use, a 13% reduction from Alternative A; 310 of the 381 OHV-Closed miles were identified as suitable for reclamation due to lack of administrative uses.

In VRM Class I areas, Alternative B would designate 211 miles for OHV use, a <1% reduction from Alternative A; 44 of the 55 OHV-Closed miles were identified as suitable for reclamation due to lack of administrative uses. In VRM Class II areas, Alternative B would designate 357 miles for OHV use, a 14% reduction from Alternative A; 216 of the 287 OHV-Closed miles were identified as suitable for reclamation due to lack of administrative uses.

The same types of impacts to the TMA's visual resources from OHV use noted above would continue to occur on those routes designated for OHV use. Given the increase in routes that would be closed to OHV use, Alternative B's potential for OHV use-related impacts to the TMA's visual resources would be the lowest of any alternative. See Appendix H.7 for the routes that are suitable for reclamation.

**3.3.7.2.3 Alternative C (Multiple Use Emphasis)**

In VRI Class I areas, Alternative C would designate 74 miles for OHV use, a 9% increase from Alternative A; approximately 2 of the OHV-Closed miles were identified as suitable for reclamation due

to lack of administrative uses. In VRI Class II areas, Alternative C would designate 766 miles for OHV use, a 16% increase from Alternative A; approximately 149 of the OHV-Closed miles were identified as suitable for reclamation due to lack of administrative uses.

In VRM Class I areas, Alternative C would designate 236 miles for OHV use, a 12% increase from Alternative A; approximately 24 of the OHV-Closed miles were identified as suitable for reclamation due to lack of administrative uses. And in VRM Class II areas, Alternative C would designate 501 miles for OHV use, a 21% increase from Alternative A; approximately 111 of the OHV-Closed miles were identified as suitable for reclamation due to lack of administrative uses.

The same types of impacts to the TMA's visual resources from OHV use noted above would continue to occur on those routes designated for OHV use. Despite the miles of routes designated as OHV-Closed, and given the increase in routes that would be designated for OHV use, Alternative C's potential for OHV use-related impacts to the TMA's visual resources would be higher than Alternatives A, B, and E but lower than Alternative D. See Appendix H.7 for the routes that are suitable for reclamation.

#### **3.3.7.2.4 Alternative D (Access Emphasis)**

In VRI Class I areas, Alternative D would designate 76 miles for OHV use, a 10% increase from Alternative A; approximately 1 mile of the OHV-Closed routes in these areas were identified as suitable for reclamation due to lack of administrative uses. In VRI Class II areas, Alternative D would designate 943 miles for OHV use, a 42% increase from Alternative A; approximately 10 of the OHV-Closed miles were identified as suitable for reclamation due to lack of administrative uses.

In VRM Class I areas, Alternative D would designate 262 miles for OHV use, a 25% increase from Alternative A; approximately 3 of the OHV-Closed miles were identified as suitable for reclamation due to lack of administrative uses. And in VRM Class II areas, Alternative D would designate 635 miles for OHV use, a 54% increase from Alternative A; approximately 8 of the OHV-Closed miles were identified as suitable for reclamation due to lack of administrative uses.

The same types of impacts to the TMA's visual resources from OHV use noted above would continue to occur on those routes designated for OHV use. Despite the miles of routes that would be designated as OHV-Closed, and given the increase in routes that would be designated for OHV use, Alternative D's potential for OHV use-related impacts to the TMA's visual resources would be the highest of any alternative. See Appendix H.7 for the routes that are suitable for reclamation.

#### **3.3.7.2.5 Alternative E (Public Comment Adjusted Alternative)**

In VRI Class I areas, Alternative E would designate 71 miles for OHV use, a 3% increase from Alternative A; approximately 6 of the OHV-Closed miles were identified as suitable for reclamation due to lack of administrative uses. In VRI Class II areas, Alternative E would designate 696 miles for OHV use, a 5% increase from Alternative A; approximately 149 of the OHV-Closed miles were identified as suitable for reclamation due to lack of administrative uses.

In VRM Class I areas, Alternative E would designate 225 miles for OHV use, a 7% increase from Alternative A; approximately 24 of the OHV-Closed miles were identified as suitable for reclamation due to lack of administrative uses. And in VRM Class II areas, Alternative E would designate 436 miles for OHV use, a 6% increase from Alternative A; approximately 111 of the OHV-Closed miles were identified as suitable for reclamation due to lack of administrative uses.

The same types of impacts to the TMA's visual resources from OHV use noted above would continue to occur on those routes designated for OHV use. Despite the miles of routes designated as OHV-Closed, and given the increase in routes that would be designated for OHV use, Alternative E's potential for OHV use-related impacts to the TMA's visual resources would be higher than Alternatives A and B, but lower than Alternatives C and D. See Appendix H.7 for the routes that are suitable for reclamation.

### 3.3.7.2.6 Cumulative Effects

For the reasons previously explained in section 3.3.7.1, miles of routes are used as an indicator of effects in the analysis area. Access to and management of the cumulative actions identified in the affected environment are route dependent. Therefore, Table 2-1, which lists the miles of routes by alternative, supplemented by Table 3-38 and 3-39 and Figures 3-13 through 3-16, which lists the miles of routes in various visual classes, indicates the potential for change in cumulative effects to visual resources. Note however that some of the cumulative actions may authorize travel on OHV-closed routes. Cumulative activities contribute changes to form, line, color, and character of the landscape as previously discussed in the Affected Environment (Section 3.3.7.1). All evaluated routes were determined to exist regardless of a previous designation, so to some extent every evaluated route already impacts visual resources in the TMA. To a different degree, each action alternative would reduce overall impacts to visual resources when a closed route is reclaimed. Under Alternative A, there would be no route designation changes in the TMA. Impacts from ongoing OHV use would reflect a continuation of current conditions, and an overall incremental change to visual resources within the cumulative effects analysis area is not anticipated.

Alternatives B-E would add varying amounts of routes designated for public OHV use (OHV-Open or OHV-Limited) that would perpetuate the route existence but would not create any new routes. These alternatives would also close varying amounts of routes to public OHV use, though it would not affect any authorized use. Any reclamation associated with a route closure would eventually lessen and potentially remove visual-related impacts.

## 3.3.8 WATER RESOURCES

*Issue 10: How would the travel network alternatives impact water quality, hydrology, and riparian areas within the TMA?*

The impact analysis area for water quality, riparian areas, and wetlands includes the TMA plus the Price and San Rafael Rivers to their confluence with the Green River. This boundary was chosen because it reflects the hydrological system within the TMA. The temporal scope of analysis is 20 years (see Section 3.1.1). The analysis area includes the San Rafael Swell Recreation Area in which the Dingell Act calls for the protection, conservation, and enhancement of its natural resources.

### 3.3.8.1 Affected Environment

The watershed analysis area contains perennial streams, intermittent and ephemeral drainages, and wetlands. Their hydrologic functions include moving water, sediment, and nutrients. In the analysis area, spring runoff from snowpack in areas of higher elevation and brief, intense late-summer storms control the hydrologic conditions. Existing routes have intersected, channeled, and/or rerouted these perennial streams, intermittent and ephemeral drainages, and wetlands resulting in rills and gullies. Travel routes serve as water conduits that direct contaminants and sediment into stream systems and riparian areas during runoff events (Miniat et al. 2019, Ouren et al. 2007). Travel routes parallel to or within the active channel can reduce channel meanders which naturally reduce flood energy. They can also cause geomorphic changes to bank angle, bank stability, channel width, sinuosity, flood velocities, width/depth ratios, and floodplain connectivity. In some cases, routes may cause artificial flow channels at or near route/stream intersections. Travel routes in areas of erosive soils that are proximate to, or crossing drainages result in higher amounts of sediment (Ouren et al. 2007) (see Section 3.3.5). Sediment and deposits from the intersections, channels, and reroutes carried by the stormwater and runoff can impair water quality in waterways (e.g., transport of saline-laden soil, increase turbidity). Contaminants may include 1,3 butadiene, benzene and ethylbenzene, xylenes, and toluene (Ouren et al. 2007). The stormwater can also carry pollutants from OHVs, such as heavy metals from brakes, engine wear, and hydrocarbons from lubricating fluids. Table 3-41 lists the perennial streams within the TMA (USGS

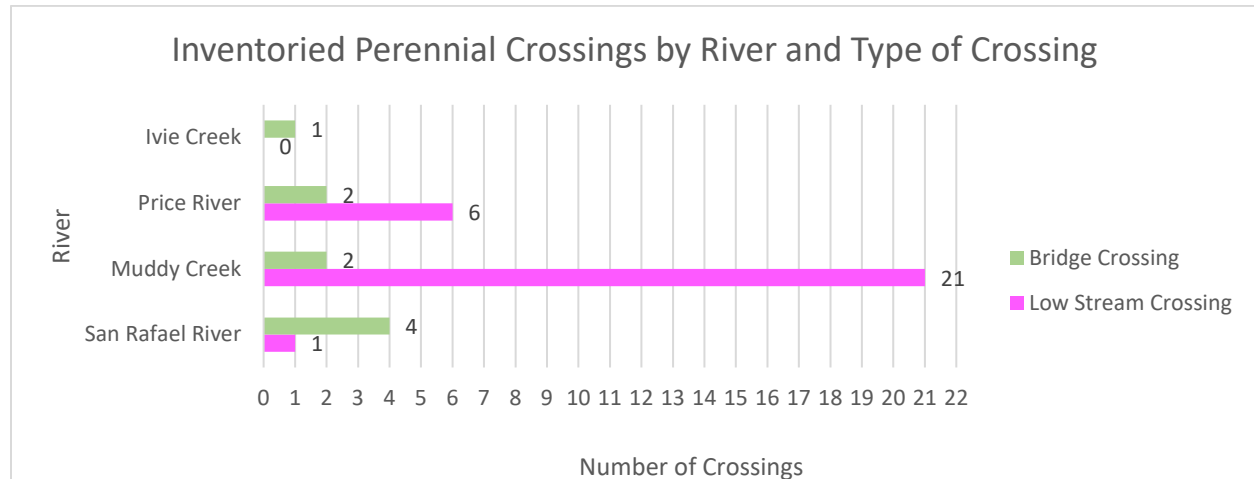
2021). Figure 3-17 shows the number of perennial stream crossings by crossing type. The nine bridge crossings in the TMA (4 are on BLM-managed lands) have less impact upon water resources and aquatic life than other kinds of crossings because OHV usage is not coming into direct contact with the water, though higher levels of traffic may occur across bridges.

Muddy Creek<sup>47</sup>, the Price River, and the San Rafael River are considered impaired according to Utah Division of Water Quality (UDWQ) and do not meet state water quality standards (UDWQ 2004) for total dissolved solids<sup>48</sup> (TDS). The San Rafael River, which is undergoing active restoration<sup>49</sup>, also has elevated salinity (USU 2013). A Total Maximum Daily Load (TMDL) has been developed by UDWQ to address the impairment. The TMDL states the primary TDS contributors are agricultural irrigation practices, surface runoff, and natural geological loadings (UDWQ 2004).

**Table 3-41: Perennial Streams**

Perennial <sup>1</sup> Stream	Total in Analysis Area (miles)	Total in TMA (miles)
Green River <sup>2</sup>	0	0
San Rafael River	113	71
Price River	151	55
Muddy Creek	117	75
Ivie Creek	22	11
Quitchipah Creek	18	4
Salt Wash	15	3
<sup>1</sup> Data used for calculations acquired from National Hydrography data – NHD		
<sup>2</sup> The analysis area ends at the confluence to the Green River.		

**Figure 3-17: Inventoried Perennial Crossings**



- Quitchipah Creek and Salt Wash have no crossings on them.
- All bridge crossings will be open in all alternatives.
- One bridge crossing over the Price River is outside the proposed TMA but within the Analysis area (Hwy 6 over Price River).
- 4 of the 9 bridges are located on BLM-managed land.

<sup>47</sup> Muddy Creek is known to have a little to no flow through most of the year (USGS Water Data, 2024).

<sup>48</sup> TDS are “all inorganic substances contained in water that can pass through a 2-micron filter” (UW 2008).

<sup>49</sup> See the Restoration and Monitoring Plan for Native Fish and Riparian Vegetation on the San Rafael River, Utah (San Rafael River Restoration Plan) (USU 2013) for details on the San Rafael River and its restoration.

Wetlands and riparian areas are scattered throughout the analysis area, but most in the TMA are along the San Rafael River, Price River, and Muddy Creek. Wetlands and riparian areas are natural buffers between uplands and adjacent water bodies. They act as natural filters of nonpoint source pollutants, including sediment, nutrients, pathogens, and metals, to waterbodies, such as rivers, streams, lakes and coastal waters (EPA 2024c). Impacts to riparian areas are indicated by declining riparian zone vegetation health, diversity, and density. Therefore, wetland and riparian areas are used by the BLM as watershed condition and land health indicators. Specifically, BLM monitors wetland and riparian areas using Assessment, Inventory, and Monitoring (AIM) Strategy and Proper Functioning Condition (PFC) tools. Approximately 23,534 acres of riparian areas exist on BLM-managed lands within the TMA, and 79 miles of evaluated routes are in 100 meters of riparian areas. Stormwater can deliver sediment and contaminants to riparian and wetland areas, resulting in decreases in riparian and wetland health. Redirection of surface water or compaction from existing roads can result in soil desiccation and riparian vegetation dusting.

Cumulative actions found in the analysis area are listed in Section 3.2.

- Use of travel routes can perpetuate runoff from impervious route surfaces, redirection of water, sedimentation, and contaminants.
- Livestock grazing results in wetland and riparian vegetation trampling, soil compaction, and sedimentation.
- Farmland agricultural practices (see Table 1-4), utilities, and water developments result in sedimentation, salinity, and redirection of surface water.
- Wildlife habitat management results in water-redirecting activities designed to improve water quality and vegetation health, diversity, and vigor.
- Recreation leads to sedimentation, and contamination.
- Mineral development results in sedimentation, contaminants, and redirection of water.

### **3.3.8.2 Environmental Effects Analysis**

When creating the alternative route networks, the BLM evaluated water resources and avoided or minimized effects at a route specific level considering the goal of the alternative and using resource-, route-, and alternative-appropriate measures including but not limited to closure (avoidance) and the minimization measures described in the Implementation Guide, Appendix H. When BLM identified disproportionately large OHV impacts to water resources or unresolved conflicts, the BLM prioritized closure regardless of alternative. For open and limited routes, BLM would implement measures from Appendix H to monitor and minimize impacts.

The following assumptions and methodologies were applied in this analysis of potential effects on water resources from the alternative designations:

- Routes identified in the analysis either directly cross a riparian area, intermittent, or perennial stream, or are located within 100 meters of riparian areas.
- OHV-Closed designations in and near riparian areas and streams would eliminate OHV effects to water resources from those closed routes.
- Maintenance under this TMP will be appropriate to the class of road to ensure navigability for designated routes without changing the character, function, or recreation experience the route provides.
- Routes not armored, culverted, or bridged at stream crossings can cause greater impacts per use than routes that are armored, culverted, or bridged, though those routes tend to have lower use levels.

Evaluated routes in the TMA cross perennial streams at 33 locations and intermittent streams<sup>50</sup> at 2,305 locations. All bridge crossings will be open in all the alternatives.

Table 3-44 shows the number of perennial stream low water crossings in each alternative.

Figure 3-18, Figure 3-19, and Table 3-42 show the number of crossing points on perennial or intermittent streams by alternative and by route designation.

Figure 3-20 and Table 3-43 show the miles of evaluated routes within 100 meters of riparian areas by alternative and by route designation.

Figure **3-21** shows the number of stream crossings and type open on the Price River by Alternative.

Figure **3-22** shows the number of stream crossings and type open on Muddy Creek by Alternative.

Figure **3-23** shows the number of stream crossings and type open on the San Rafael River by Alternative.

Table 3-44 shows the number of OHV-Open low water crossings for Price River, Muddy Creek and San Rafael River by Alternative.

Under Alternative D, 15 of the 21 crossings within Muddy Creek are OHV-Limited to single-track vehicles (Figure **3-22**).

The nature of the effects will be the same across alternatives, however the magnitude and location of the routes will vary. The magnitude can be judged using Figure 3-18 through Figure **3-23** and Table 3-42 through Table 3-44. The location of the effects can be judged using Map 13.

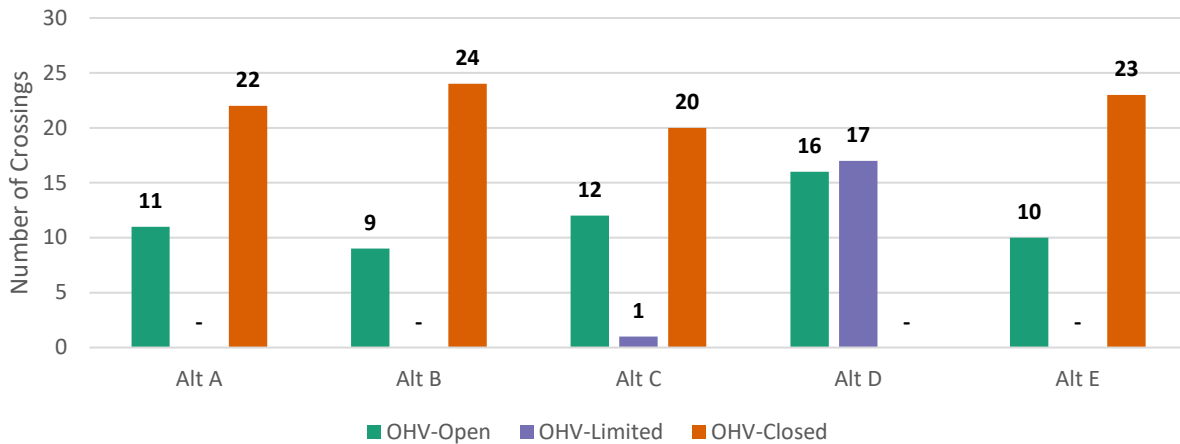
Specifically, OHV use, including incidental use such as passing, parking, and staging, and associated maintenance (see Section H.4 in Appendix H). These effects result from tires removing soil-stabilizing agents, such as vegetative cover, soil crusts, and woody debris. TMP implementation activities (Appendix H) that could result in compaction or increased sediment or contaminant load include route maintenance (e.g., surface and ditch blading.), reclamation (e.g., raking), and sign placement (e.g., digging post holes). These effects would occur in very short time frames (estimated to be one to four days' worth of work, though it may be longer for longer routes). TMP implementation activities that could minimize compaction, sediment, or contaminant load include sign placement directing OHVs to routes that are less disruptive to waterways, maintenance of route drainage to control erosion, network enforcement, impact monitoring, and route reclamation as appropriate. These effects would occur over longer timeframes.

Best management practices (BMPs) recommended by the TMDL for Muddy Creek and the Price and San Rafael Rivers include closing routes that are eroded and limiting OHV use to non-sensitive areas away from streams. Alternatives A-E would have varying numbers of routes proximate to streams and riparian areas closed to OHV use. Therefore, all alternatives would implement to differing levels the recommended BMPs for reducing TDS loading in Muddy Creek, the Price River, and the San Rafael River. This in turn may improve the stream's observed/expected bioassessment (a comparison of the observed aquatic macroinvertebrates in the stream to the expected aquatic macroinvertebrates).

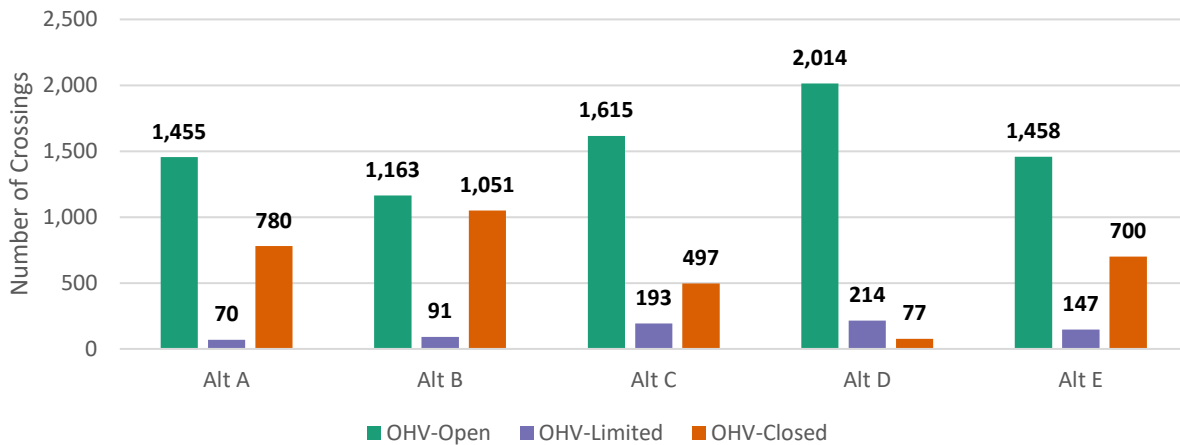
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<sup>50</sup> The EPA (EPA 2008) definition of intermittent stream is a stream where portions flow continuously only at certain times of the year, for example when it receives water from a spring, ground-water source or from a surface source, such as melting snow (i.e. seasonal). At low flow there may be dry segments alternating with flowing segments. The EPA definition of ephemeral stream is a stream or portion of a stream which flows briefly in direct response to precipitation in the immediate vicinity, and whose channel is at all times above the groundwater reservoir. The BLM used the National Hydrography Dataset for the route inventory for its impact calculations. The National Hydrography Dataset identifies Little Wild Horse Canyon, Buckhorn Wash, and Bell Canyon as intermittent streams. Per BLM specialists' knowledge of these areas those streams match the EPA's definition of ephemeral. Therefore, the number of intermittent crossings is overestimated and most useful as a comparison between alternatives.

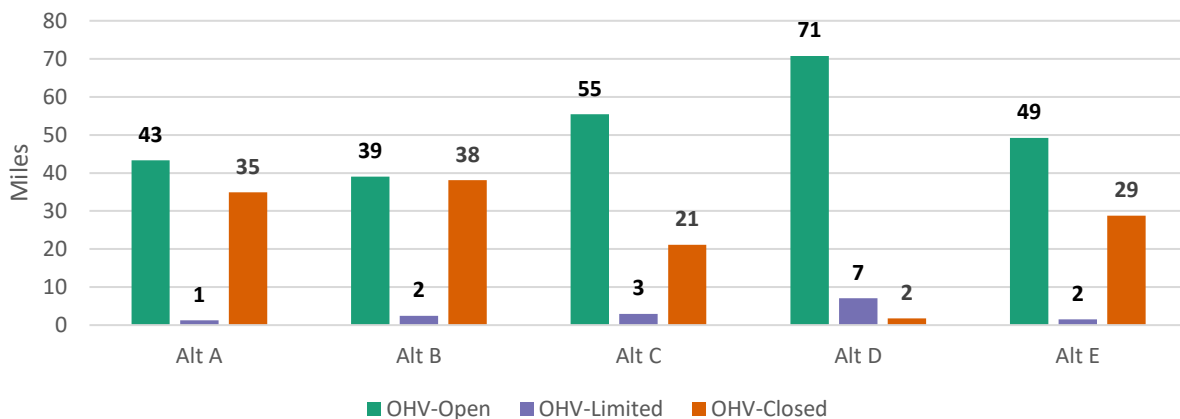
**Figure 3-18: Number of Crossing Points on Perennial Streams**



**Figure 3-19: Number of Crossing Points on Intermittent Streams**



**Figure 3-20: Miles of Evaluated Routes in or within 100 Meters of Riparian Areas**



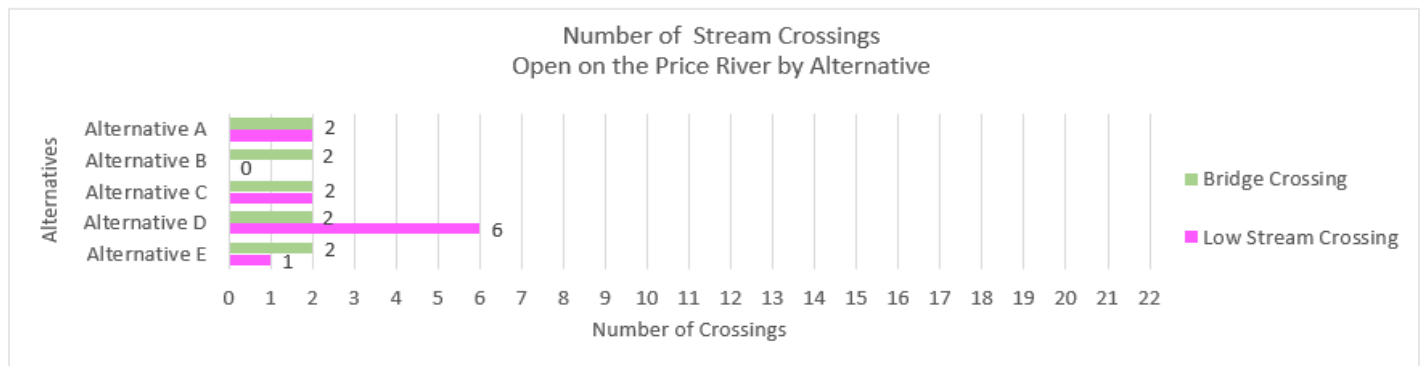
**Table 3-42: Number of Crossing Points on Perennial or Intermittent Streams**

	Designation	Alt. A	Alt. B		Alt. C		Alt. D		Alt. E	
		Crossings	Crossings	Change from Alt A (Crossings)	Crossings	Change from Alt A (Crossings)	Crossings	Change from Alt A (Crossings)	Crossings	Change from Alt A (Crossings)
Perennial Stream Crossings	OHV-Open	11	9	-2	12	+1	16	+5	10	-1
	OHV-Limited	-	-	-	1	+1	17	+17	-	-
	OHV-Closed	22	24	+2	20	-2	-	-22	23	+1
Intermittent Stream Crossings	OHV-Open	1,455	1,163	-292	1,615	+160	2,014	+559	1,458	+3
	OHV-Limited	70	91	+21	193	+123	214	+144	147	+77
	OHV-Closed	780	1,051	+271	497	-283	77	-703	700	-80

**Table 3-43: Miles of Evaluated Routes within 100 Meters of Riparian Areas**

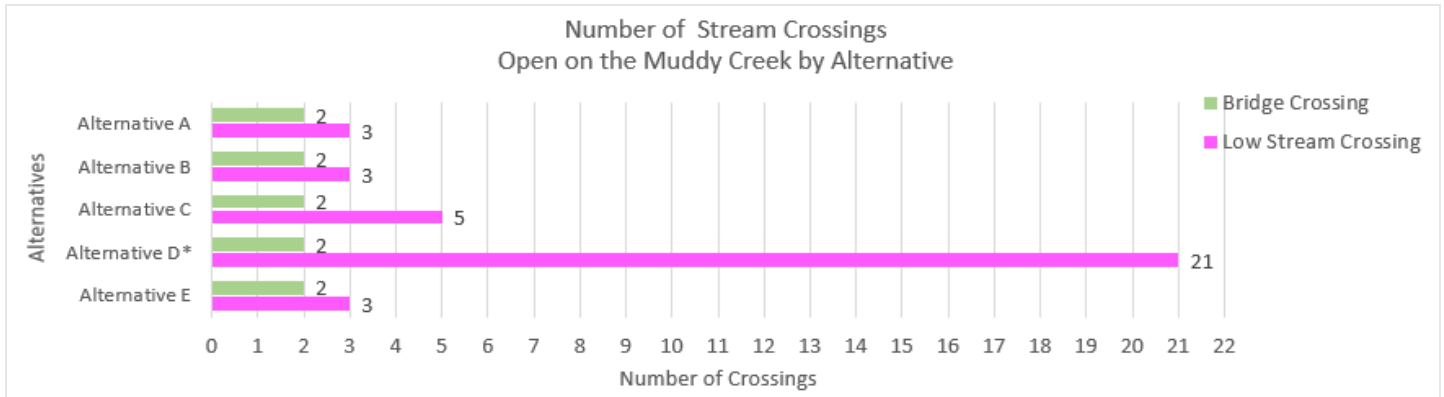
	Designation	Alt. A	Alt. B		Alt. C		Alt. D		Alt. E	
		Miles	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)
Riparian	OHV-Open	43	39	-4	55	+12	71	+27	49	+6
	OHV-Limited	1	2	+1	3	+2	7	+6	2	+0.3
	OHV- Closed	35	38	+3	21	-14	2	-33	29	-6

**Figure 3-21: Number of Stream Crossings Open on the Price River by Alternative**



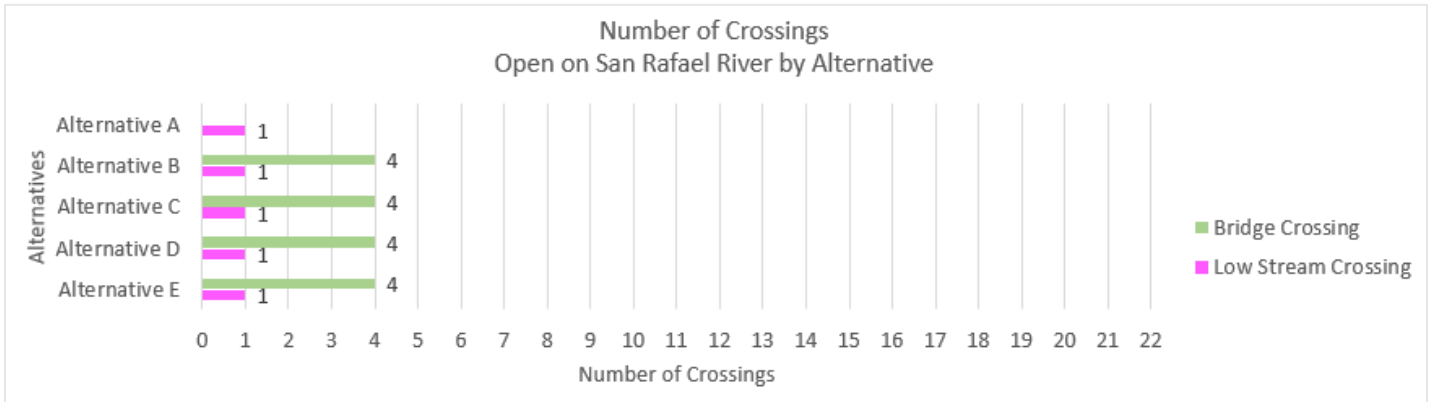
- 1 Alternative C – 1 crossing is a limited to motorized single-track route
- 2 Alternative D – 2 crossings are limited to motorized single-track routes

**Figure 3-22: Number of Stream Crossings Open on the Muddy Creek by Alternative**



1 Alternative D – 15 crossings are limited to motorized single-track routes and 1 crossing is located on private land (County Road 917)

**Figure 3-23: Number of Stream Crossings Open on the San Rafael River by Alternative**



1 Fuller Bottom Road Crossing is on State-managed land; therefore, BLM has no authorization on the opening or closing of the crossing.

**Table 3-44: Number of OHV-Open Low Water Crossings for Price River, Muddy Creek, and San Rafael River by Alternative**

	Alt A	Percentage of All Low Water Perennial Crossings (28)	Alt B	Percentage of All Low Water Perennial Crossings (28)	Alt C	Percentage of All Low Water Perennial Crossings (28)	Alt D	Percentage of All Low Water Perennial Crossings (28)	Alt E	Percentage of All Low Water Perennial Crossings (28)
Price River	2	7%	0	0%	2	7%	6	21%	1	4%
Muddy Creek	3	11%	3	11%	5	18%	21	75%	3	11%
San Rafael River	1	4%	1	4%	1	4%	1	4%	1	4%

### 3.3.8.2.1 Alternative A (No Action)

Under Alternative A, there would be no route designation changes in the TMA. Of the evaluated routes crossing perennial streams in the TMA, 33% of the points of crossing (11 crossing points) are designated for OHV use. Of the evaluated routes crossing intermittent streams, 66% of the points of crossing (1,525 crossing points) are designated for OHV use. Of the evaluated routes within 100 meters of riparian areas in the TMA, 56% (44 miles) are designated for OHV use. The OHV and associated human use (e.g.,

camping, exploring, etc.) on routes in or proximate to streams and riparian areas causes erosion, sedimentation, and loss of important streamside and riparian vegetative cover. Subsequent sediment travel and deposition in streams and riparian areas leads to water quality degradation. Impacts to water quality and hydrology from ongoing OHV use (e.g., erosion, sedimentation and salination, loss of important streamside and riparian vegetative cover, etc.) would reflect continuation of current designations.

#### **3.3.8.2.2 Alternative B (Resource Protection Emphasis)**

Under Alternative B, the following would be designated for OHV use: There are 9 crossing points where evaluated routes are crossing perennial streams (2 crossing points reduction from Alternative A), and 1,254 points crossing intermittent streams (an 18% reduction compared to Alternative A). Of the evaluated routes in or proximate to riparian areas, Alternative B would designate 41 miles for OHV use, a 7% reduction from Alternative A. Under Alternative B, the same types of effects on water resources from OHV use noted above (see Alternative A) would continue to occur on those routes designated OHV-Open or OHV-Limited; however, overall, this alternative would have the lowest potential of any alternative for ongoing OHV-related impacts to water quality and hydrology within the TMA because it has the least amount of perennial or intermittent crossings and amount of route miles within 100 meters of riparian areas.

#### **3.3.8.2.3 Alternative C (Multiple Use Emphasis)**

Under Alternative C, the following would be designated for OHV use: There are 13 crossing points where evaluated routes are crossing perennial streams (2 points of crossing increase from Alternative A), and 1,808 crossing points that cross intermittent streams (a 19% increase compared to Alternative A). Of the evaluated routes in or proximate to riparian areas, Alternative C would designate 58 miles for OHV use, a 32% increase from Alternative A. Under Alternative C, the same types of effects on water resources from OHV use noted above (see Alternative A) would continue to occur on those routes designated OHV-Open or OHV-Limited.

#### **3.3.8.2.4 Alternative D (Access Emphasis)**

Under Alternative D, the following would be designated for OHV use: There are 33 crossing points where evaluated routes crossing perennial streams (a 22 points of crossing increase from Alternative A), and 2,228 crossing points that cross intermittent streams (a 46% increase compared to Alternative A). Of the evaluated routes in or proximate to riparian areas, Alternative D would designate 78 miles for OHV use, a 77% increase from Alternative A. Under Alternative D, the same types of effects on water resources from OHV use noted above (see Alternative A) would continue to occur on those routes designated OHV-Open or OHV-Limited. Overall, this alternative would have the highest potential of any alternative for ongoing OHV-related impacts to water quality and hydrology within the TMA because it has the highest number of perennial or intermittent crossings and route miles within 100 meters of riparian areas.

#### **3.3.8.2.5 Alternative E (Public Comment Adjusted Alternative)**

Under Alternative E, the following would be designated for OHV use: There are 10 crossing points where evaluated routes crossing perennial streams (a 1 point of crossing decrease from Alternative A), and 1,605 crossing points that cross intermittent streams (a 5% increase compared to Alternative A). Of the evaluated routes in or proximate to riparian areas, Alternative E would designate 51 miles for OHV use, a 16% increase from Alternative A. Under Alternative E, the same types of effects on water resources from OHV use noted above (See Alternative A) would continue to occur on those routes designated OHV-Open or OHV-Limited.

### 3.3.8.2.6 Cumulative Effects

Cumulative activities in the analysis area contribute effects as previously discussed in the Affected Environment (Section 3.3.8.1). Access to and management of the cumulative actions identified in the affected environment are route dependent. Therefore, Table 2-1, which lists the miles of routes by alternative, supplemented by Tables 3-41 through 3-43 and Figures 3-18 through 3-23, which lists the stream crossings, river crossings, and acres within 100 meters of riparian areas, indicates the potential for change in cumulative effects to water resources. Cumulative actions on the San Rafael River between the TMA and its confluence with the Green River include an additional 2 stream crossings: 1 bridge and 1 ford. It also includes an additional 27 miles of OHV-open routes within 100 meters of perennial streams. Cumulative actions on the Price River between the TMA and its confluence with the Green River also include an additional 2 stream crossings: 1 bridge and 1 ford. It also includes an additional 7 miles of routes within 100 meters of ESA-Listed fish, mostly on private land. The majority of Price River downstream of the TMA is in designated wilderness. Also note however that some of the cumulative actions may authorized travel on OHV-closed routes. These soil-displacing, soil-compacting, and water-redirecting actions leading to sedimentation, head cutting, and delivery of contaminants to streams and riparian areas resulting in water quality impairment; and decreases in riparian and wetland health.

Under Alternative A, there would be no route designation changes in the TMA. Impacts from ongoing OHV use would reflect a continuation of current conditions, and an overall incremental change to water within the cumulative effects analysis area is not anticipated.

Alternatives B-E would add varying amounts of routes designated for public OHV use (OHV-Open or OHV-Limited) that would perpetuate the route existence but would not create any new routes. These alternatives would also close varying amounts of routes to public OHV use, though it would not affect any authorized use. Any reclamation associated with a route closure would eventually lessen and potentially remove water-related impacts

## 3.3.9 WEEDS

*Issue 11: How would the travel network alternatives impact the introduction and spread of noxious and invasive weeds?*

The analysis area for invasive/noxious weeds is the TMA, because it is the smallest unit which shows all impacts to soils, native vegetation and invasive/ noxious weeds within the TMA. The temporal scope of analysis is 20 years (see Section 3.1.1).

### 3.3.9.1 Affected Environment

Weeds in the TMA are defined by the Utah Noxious Weed List (Utah Administrative Code 2020), and the Emery County and Sevier County weed control boards. Some invasive plants and noxious weeds within the TMA include cheatgrass (*Bromus tectorum*), halogeton (*Halogeton glomeratus*), puncture vine (*Tribulus terrestris*), Russian knapweed (*Acroptilon repens*), and Russian thistle (*Salsola tragus*). This is not a comprehensive list. Extensive tamarisk (*Tamarix ramosissima*) and Russian olive (*Elaeagnus angustifolia*) infestations exist along the San Rafael River in the TMA, resulting in vegetation communities far removed from their natural riparian vegetation state. For more details on invasive plants and noxious weeds in the TMA, see pages 3-22 to 3-24 of the 2008 Price Proposed RMP/EIS (BLM 2008d) and pages 3-33 to 3-36 of the 2008 Richfield Proposed RMP/EIS (BLM 2008f). Also see the State of Utah noxious weed list at <https://ag.utah.gov>.

The presence of noxious weeds and invasive species is often related to soil disturbances and loss of native species in those systems. Waterways in the TMA also provide corridors for weed establishment and spread. Routes are a primary pathway for plant invasions into arid and semi-arid ecosystems (Brooks and Lair 2005). A study by Von der Lippe and Kowarik (2007) showed that dispersal of seeds, particularly

those of non-native species, by vehicles may accelerate plant invasions and induce changes in biodiversity patterns. Along travel routes, cover of native species can decrease, giving more opportunity for weeds to flourish (Assaeed et al. 2019). On the Colorado Plateau, invasive cover is higher along verges of paved roads compared to primitive roads, indicating a greater effect along roads that receive higher levels of construction and maintenance (Gelbard and Belnap 2003).

As part of the PFO BLM's weed control program, the Carbon and Emery County's weed departments are contracted to help control and monitor weed populations within the field office boundaries. The PFO BLM is an active member of the Skyline Co-operative Weed Management Area group which is a group of federal, state, and county agencies that manage weed populations as a collective whole on federal, state, and private lands. Internally the PFO BLM also sprays and monitors weed populations within Carbon and Emery counties along roadways, recreation sites, and range improvement facilities such as reservoirs. Many of these sites are located within the TMA boundary.

Evaluators used multiple geospatial datasets (such as known weed locations and vegetation types) as well as specialist knowledge of the area to identify route-specific weed issues during the route evaluation process because a complete weed geospatial dataset doesn't exist for the TMA. Therefore, soil impacts are estimated using number of routes as a comparison across alternatives. This approach overestimates the effects because one route crosses multiple soil types, so routes are counted more than once. See Table 2-1 for the total mileage of route designations under each alternative, and Table 3-11 for total mileages within certain vegetation types, which can be an indicator of weeds because some types of vegetation are more susceptible to weed invasions. Table 3-45, below, shows the number of evaluated routes in areas with noxious weeds or invasive vegetation. Of the 2,149 evaluated routes in the TMA, 803 (37% of the network) are in or within ¼ mile of areas with noxious weeds and 1,004 (47% of the network) are in or within ¼ mile of invasive vegetation.

OHV-Closed designations prevent weed introduction or spread from OHVs. OHV-Open or OHV-Limited designations perpetuate weed introduction or spread from OHVs. Route use and surface disturbances from off-route vehicle travel (e.g., passing or parking, particularly along minimally maintained routes, which tend to be narrower) can create additional areas for weeds to establish. These changes (soil disturbance, soil compaction, and soil erosion), along with accidental seed dispersal, may exacerbate the introduction and spread of invasive plant species and alter vegetative communities. Travel network implementation activities (Appendix H) that may cause surface disturbance areas where weeds could establish include installing new signs, road maintenance consistent with the character and class of the route, and route reclamation. Routes also provide access for authorized monitoring and treatment of invasive plants and noxious weeds. All action alternatives include operation and management activities to minimize impacts and user conflicts as disclosed in the TMP Implementation Guide (Appendix H), with formal guidance for signing, maintenance, enforcement, monitoring, and reclamation that are designed to offset ongoing route-related impacts.

Cumulative actions found in the analysis area are listed in Section 3.2. Besides travel management activities these include grazing activities, utilities and water development, wildlife management activities, recreation, and mineral development. All these cumulative actions have the potential to introduce or spread weeds, and some actions include surface disturbance which is susceptible to weed invasion.

### **3.3.9.2 Environmental Effects Analysis**

When creating the alternative route networks, the BLM evaluated weeds and avoided or minimized effects at a route specific level considering the goal of the alternative and using resource-, route-, and alternative-appropriate measures including but not limited to closure (avoidance) and the minimization measures described in the Implementation Guide, Appendix H. When BLM identified disproportionately large OHV impacts to weeds or unresolved conflicts, the BLM prioritized closure regardless of

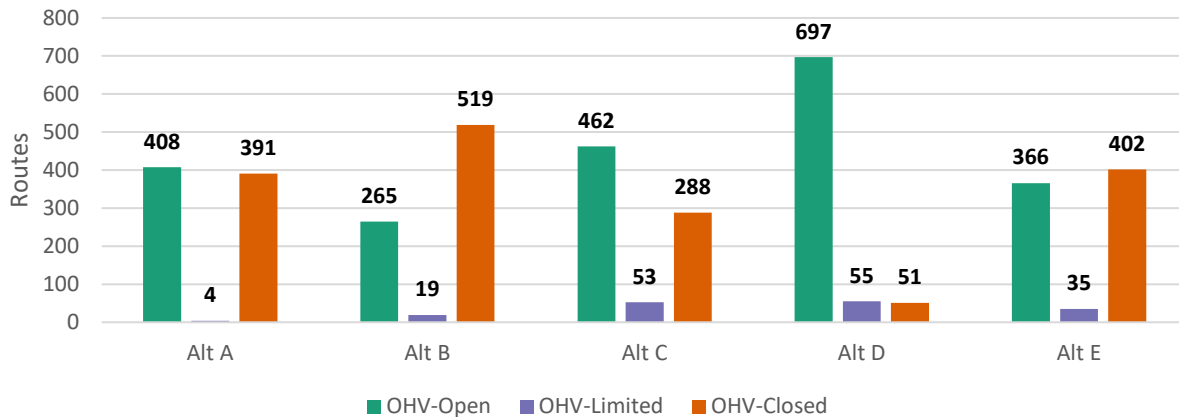
alternative. For open and limited routes, BLM would implement measures from Appendix H to monitor and minimize impacts.

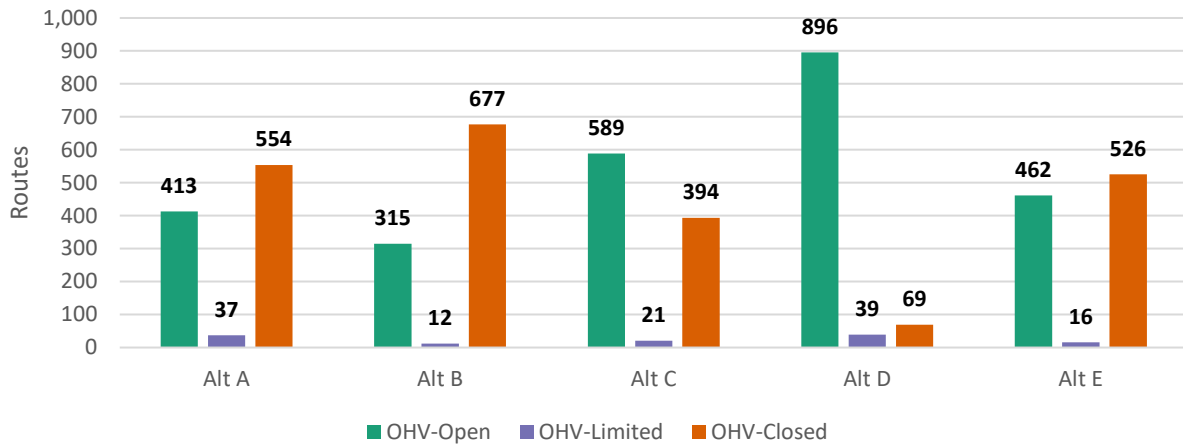
The following assumptions and methodologies were applied in this analysis of potential effects on weeds from the alternative designations:

- Routes identified in the analysis directly cross known weed infestations.
- 131 miles of routes within the TMA are paved.
- OHV-Closed designations would eliminate OHVs contribution to weed introduction and spread on those routes.
- Maintenance under this TMP will be appropriate to the class of road to ensure navigability for designated routes without changing the character, function, or recreation experience the route provides.

Numbers of routes in areas of noxious weeds and invasive plants is used as indicators of potential OHV route designation impacts on the TMA's weeds (see Figure 3-24, Figure 3-25, and Table 3-45). The nature of the effects will be the same across alternatives, however the magnitude and location of the routes will vary. The magnitude can be judged using Figure 3-24, Figure 3-25, and Table 3-45. The location of the effects can be judged using Map 2 through Map 6. OHV use of travel routes can introduce or spread weeds. TMP implementation activities (Appendix H) that could introduce or spread weeds include route maintenance (e.g., surface and ditch blading.), reclamation (e.g., raking), and sign placement (e.g., digging post holes). These effects would occur in very short time frames (estimated to be one to four days' worth of work, though it may be longer for longer routes). TMP implementation activities (Appendix H) that could reduce weed spread and introduction include sign placement directing OHVs away from weed infestations, mechanical or chemical treatment of infestations in accordance with the Field Office's or County's weed programs, enforcement of the route network, monitoring of route effects, and reclamation of routes as appropriate. These effects would occur over longer timeframes.

**Figure 3-24: Number of Evaluated Routes within ¼ Mile of Noxious Weeds**



**Figure 3-25: Number of Evaluated Routes within ¼ Mile of Invasive Vegetation****Table 3-45: Number of Evaluated Routes in Areas with Noxious Weeds or Invasive Vegetation**

		Alt. A	Alt. B		Alt. C		Alt. D		Alt. E	
	Designation	Routes	Routes	Change from Alt A (Routes)	Routes	Change from Alt A (Routes)	Routes	Change from Alt A (Routes)	Routes	Change from Alt A (Routes)
Noxious weeds	OHV-Open	408	265	-143	462	+54	697	+289	366	-42
	OHV-Limited	4	19	+15	53	+49	55	+51	35	+31
	OHV-Closed	391	519	+128	288	-103	51	-340	402	+11
Invasive vegetation	OHV-Open	413	315	-98	589	+176	896	+483	462	+49
	OHV-Limited	37	12	-25	21	-16	39	+2	16	-21
	OHV-Closed	554	677	+123	394	-160	69	-485	526	-28

**3.3.9.2.1 Alternative A (No Action)**

Under Alternative A, there would be no route designation changes in the TMA. In areas of noxious weeds, 51% of the evaluated routes (412 routes) would remain designated for OHV use under this alternative, and in areas of invasive vegetation, 45% (450 routes) would remain designated for OHV use. Spread of invasive plants and noxious weeds from ongoing OHV use would reflect continuation of current designations.

**3.3.9.2.2 Alternative B (Resource Protection Emphasis)**

Alternative B would reduce the number of evaluated routes designated for OHV use in areas of noxious weeds by 31% (-128 routes) and in areas of invasive vegetation by 27% (-123 routes). Under Alternative B, the same types of effects on weeds from OHV use noted above would be expected to occur on those routes designated OHV-Open or OHV-Limited; however, this alternative would have the overall lowest potential of any alternative for OHV-related weed and invasive species spread.

**3.3.9.2.3 Alternative C (Multiple Use Emphasis)**

Alternative C would increase the number of evaluated routes designated for OHV use in areas of noxious weeds by 25% (+103 routes) and in areas of invasive vegetation by 36% (+160 routes). Under Alternative C, the same types of effects on weeds from OHV use noted above would be expected to occur on those routes designated OHV-Open or OHV-Limited. Overall, this alternative would have higher potential than

Alternatives A, B, and E but lower potential than Alternative D for OHV-related weed and invasive species spread.

#### **3.3.9.2.4 Alternative D (Access Emphasis)**

Alternative D would increase the number of evaluated routes designated for OHV use in areas of noxious weeds by 80% (+340 routes) and in areas of invasive vegetation by 108% (+485 routes). Under Alternative D, the same types of effects on weeds from OHV use noted above would be expected to occur on those routes designated OHV-Open or OHV-Limited. Overall, this alternative would have the highest potential of any alternative for OHV-related weed and invasive species spread.

#### **3.3.9.2.5 Alternative E (Public Comment Adjusted Alternative)**

Alternative E would reduce the number of evaluated routes designated for OHV use in areas of noxious weeds by 3% (-11 routes) and would increase the number of evaluated routes designated for OHV use in areas of invasive vegetation by 6% (+28 routes). Under Alternative E, the same types of effects on weeds from OHV use noted above would be expected to occur on those routes designated OHV-Open or OHV-Limited. Overall, this alternative would have similar potential to Alternative A, higher potential than Alternative B, and lower potential than Alternatives C and D for OHV-related weed and invasive species spread.

#### **3.3.9.2.6 Cumulative Effects**

For the reasons previously explained in section 3.3.9.1, miles of routes are used as an indicator of effects in the analysis area. Access to and management of the cumulative actions identified in the affected environment are route dependent. Therefore, Table 2-1, which lists the miles of routes by alternative, supplemented by Table 3-44 and Figures 3-24 through 3-25, which lists the miles of routes in areas with weed infestations, indicates the potential for change in cumulative effects to weeds. Note however that some of the cumulative actions may authorize travel on OHV-closed routes. Cumulative effects from past, present, and reasonably foreseeable projects and activities on weed spread and introduction includes OHV use of routes and implementation as described in the affected environment.

Under Alternative A, there would be no route designation changes in the TMA. Impacts from ongoing OHV use would reflect a continuation of current conditions, and an overall incremental change to weeds within the cumulative effects analysis area is not anticipated.

Alternatives B-E would add varying amounts of routes designated for public OHV use (OHV-Open or OHV-Limited) that would perpetuate the route existence but would not create any new routes. These alternatives would also close varying amounts of routes to public OHV use, though it would not affect any authorized use. Any reclamation associated with a route closure would eventually lessen and potentially remove vegetation-related impacts.

### **3.3.10 WILDLIFE: SPECIAL STATUS FISH (T&E AND BLM SENSITIVE SPECIES)**

*Issue 12: How would the travel network alternatives impact T&E and BLM Sensitive fish species and habitat within the TMA?*

The analysis area for T&E and BLM sensitive fish species<sup>51</sup> is the TMA plus the Price, San Rafael and Muddy Rivers to their confluence with the Green River because it is the smallest unit which shows all impacts to special status species and their habitats within the TMA. The temporal scope of analysis is 20 years (see Section 3.1.1). The analysis area includes the San Rafael Swell Recreation Area in which the

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<sup>51</sup> See Section 4.1.3 for information regarding the Section 7 consultation process.

Dingell Act calls for the protection, conservation, and enhancement of its natural, wildlife, and ecological resources.

### **3.3.10.1 Threatened and Endangered Fish Species**

The Green and Colorado River and the associated 100-year floodplain and tributaries provide habitats for four fish listed under the Endangered Species Act: bonytail chub, Colorado pikeminnow, humpback chub, and razorback sucker. Designated critical habitat for the four listed species occurs on the Green and the Colorado Rivers at least 20 river miles outside the TMA. Within the TMA, the Price River and San Rafael River, tributaries to the Green River, have recorded usage by the T and E fish. However, the habitat is limited due to dewatering of the rivers and the presence of diversions. The Hat Ranch Diversion on the San Rafael River is in the southern portion of the TMA, near the southern edge of the TMA, and blocks upstream fish movement from the Green River, effectively limiting potential habitat for the listed fish to below the Hat Ranch Diversion. Near the diversion, Colorado pikeminnow, bonytail chub, and razorback sucker have been detected through monitoring efforts.

Details on habitat, threats, and trends for the fish discussed below can be found in the Biological Opinion for BLM Resource Management Plan, Price Field Office (USFWS 2008a), the “Special Status Species” and “Fish and Wildlife” sections of the Price Proposed RMP/EIS (BLM 2008b, pages 3-36 to 3-59), Biological Opinion for BLM Resource Management Plan, Richfield Field Office (USFWS 2008b), the “Special Status Species” and “Fish and Wildlife” sections of the Richfield Proposed RMP/EIS (BLM 2008d, pages 3-36 to 3-59), and NatureServe Explorer (NSE 2024).

The published area of influence (AOI) is the area identified by the USFWS as the potential range of the species. The Colorado pikeminnow, bonytail chub and razorback sucker all have AOIs that overlap the TMA. The humpback chub AOI does not overlap any area in the TMA. AOI data was sourced from USFWS Information Planning, and Consultation System.

**Table 3-46: Threatened and Endangered Fish Species and their Habitats**

Species	Status	Habitat
<b>3.3.10.1.1 Bonytail (<i>Gila elegans</i>)</b>	Endangered	<p>The bonytail is a sizeable fish species endemic to the large rivers of the Colorado River Basin, however there are currently no self-sustaining populations of bonytail chub in the Upper Colorado River Basin.</p> <p>No Designated Critical Habitat for the bonytail chub occurs within the TMA and the nearest designated critical habitat on the Green River is approximately 22 river miles away from the TMA along the Price River and 73 river miles along the San Rafael River and upstream on the Green River. The bonytail AOIs occurs below the Hat Ranch diversion on the San Rafael River</p> <p>Within the perennial waters of the TMA, bonytail have been stocked in the Price and San Rafael Rivers near the Green River (USFWS 2024a). Tributaries, like the Price and San Rafael River are thought to be one of the key components for different life stages of bonytail chub in the Green River system. The primary threats to bonytail chub are stream flow regulation and habitat modification; also, competition and predation by nonnative fishes; hybridization with other native <i>Gila</i> species; poor land-use practices, degraded water quality, pesticides, and pollutants (USFWS 2002a). The existing habitat, altered by these threats, has been modified to the extent that it impairs essential behavior patterns, such as breeding, feeding, and sheltering (USFWS 2002a).</p>

Species	Status	Habitat
		The PFO BLM and partners have monitored the Price and San Rafael River using remote passive integrated transponders (PIT) and antennas for several years, and there have been no detections of bonytail chub in the TMA (USFWS 2018). For more details on habitat, threats, and trends, see the Bonytail Chub ( <i>Gila elegans</i> ) Recovery Goals: Amendment and Supplement to the Bonytail Recovery Plan and Bonytail ( <i>Gila elegans</i> ) 2024 5-year status review (USFWS 2002a, USFWS 2024a).
<b>3.3.10.1.2 Colorado Pikeminnow (<i>Ptychocheilus lucius</i>)</b>	Endangered	<p>The Colorado pikeminnow is endemic to the Colorado River Basin. Colorado pikeminnow has been detected in the San Rafael River and Price River within the TMA with the use of PIT tags. Colorado Pikeminnow have migrated in and out of both river systems from the Green River seasonally for various life stages (USU 2013, USU 2020).</p> <p>There is no Designated Critical Habitat within the TMA, but the perennial streams in the TMA connect to the Green River where critical habitat is present for Colorado Pikeminnow. The nearest designated critical habitat on the Green River is approximately 22 river miles along the Price River east of the TMA. The Colorado pikeminnow has the largest AOI within the TMA, covering the Price River and the lower section of the San Rafael River below the Hatt's Ranch diversion. This AOI is within the Green River subbasin analysis unit (USFWS 2022b). Analysis units are delineated by dams and reservoirs, and further refined by reaches where population size is estimated and demographic processes are thought to be largely independent.</p> <p>The Green River subbasin analysis unit is the least regulated sub basin and maintains variable peak flows from the tributaries like the Yampa and to a smaller extent the Price and the San Rafael Rivers. However, water depletions have dewatered the Price and the San Rafael River during portions of the year. Stressors identified for the Colorado pikeminnow include reductions to natural flow regimes, water temperature depression as a result of hypolimnetic releases from large dams, physical barriers to movement and the loss of quality habitat and connectivity. For more details on habitat, threats, and trends see Species Status Assessment for the Colorado Pikeminnow (USFWS 2022b), Final Recovery Plan for Colorado Pikeminnow (USFWS 2023a) and Colorado Pikeminnow (<i>Ptychocheilus lucius</i>) 5-Year Status Review: Summary and Evaluation (USFWS 2020a).</p>
<b>3.3.10.1.3 Humpback Chub (<i>Gila cypha</i>)</b>	Threatened	Humpback Chub is endemic to the Colorado River Basin. There is no Designated Critical Habitat within the TMA nor does the species AOI intersect the TMA. Designated Critical Habitat occurs in the Green River about 15 miles east of the TMA in Desolation and Gray Canyons (DOI 2023a). The Price and San Rafael River in the TMA connect to the Green River. The primary threats to humpback chub are stream flow regulation and habitat modification; competition with and predation by nonnative fishes; parasitism (Asian tapeworm); hybridization with other native <i>Gila</i> species; pesticides and pollutants (USFWS 1990). The existing habitat, altered by these threats, has been modified to the extent that it impairs essential behavior patterns, such as breeding, feeding, and sheltering. Although historic data are limited, the apparent

Species	Status	Habitat
		<p>range-wide decline in humpback chub is likely due to a combination of factors including alteration of river habitats by reservoir inundation, changes in stream discharge and temperature, competition with and predation by introduced fish species, and other factors such as changes in food resources resulting from stream alterations (USFWS 1990). Also, extensive human alterations throughout the basin prior to faunal surveys may have depleted or eliminated the species from some river reaches before its occurrence was documented.</p> <p>No detections or observations have occurred within the Price or San Rafael through monitoring efforts or the use of PIT antennas. Detections have occurred near the confluence of the Price River.</p>
<b>3.3.10.1.4 Razorback Sucker (<i>Xyrauchen texanus</i>)</b>	Endangered	<p>There is no Designated Critical Habitat within the TMA, but the Price and San Rafael River in the TMA connect to the Green River where critical habitat is present for razorback sucker. Within the Upper Colorado River Basin razorback suckers spawn in major tributaries such as the Green River and the Yampa. In the TMA, the razorback sucker has been detected on the Price and San Rafael River through the use of remote passive integrated tag (PIT) antennas (USFWS 2018a). Designated Critical Habitat for this species includes approximately 73 miles of the Green River that is approximately 22 miles from the eastern boundary of the TMA (DOI 2023b). For more details on habitat, threats, and trends see the Species Status Assessment for the Razorback Sucker <i>Xyrauchen texanus</i> (USFWS 2018a).</p>

### **3.3.10.2 BLM Sensitive Fish Species**

Sensitive fish species found within the TMA include Bluehead Sucker, Flannelmouth Sucker), and Roundtail Chub. Habitat for these species is in Table 3-47. For details on habitat, threats, and trends for these BLM Sensitive fish species, see the Range-wide Conservation Agreement and Strategy for Roundtail Chub (*Gila Robusta*), Bluehead Sucker (*Catostomus discobolus*), and Flannelmouth Sucker (*Catostomus latipi*) (UDWR 2006).

**Table 3-47: BLM Sensitive Fish Species and their Habitats**

Species	Status	Habitat
<b>3.3.10.2.1 Bluehead Sucker</b> ( <i>Catostomus discobolus</i> )	BLM sensitive	The bluehead sucker occurs in Ivie Creek, Muddy Creek, the Price River, Quitchupah Creek, and the San Rafael River within the TMA. Populations of bluehead suckers in the TMA are self-sustaining, but impacts to streambeds, riparian zones, and sediment loading are reducing the ability for bluehead suckers to persist within the TMA. The bluehead sucker occurs in low numbers in Muddy Creek largely depending on immigration from downstream sources during years of above-average flow.
<b>3.3.10.2.2 Flannelmouth Sucker</b> ( <i>Catostomus latipinnis</i> )	BLM sensitive	The flannelmouth sucker occurs in Ivie Creek, Muddy Creek, the Price River, Quitchupah Creek, and the San Rafael River. In the Price and San Rafael River within the TMA flannelmouth sucker are self-sustaining. Fish continue to persist even in between drying periods on both river systems. Immigration from the Green River continues to contribute to the populations in both rivers and continue their presence within the TMA. The flannelmouth sucker occurs in low numbers in Muddy Creek depending largely on immigration from downstream sources during years of above-average flow.
<b>3.3.10.2.3 Roundtail Chub</b> ( <i>Gila robusta</i> )	BLM sensitive	Roundtail chub only occur in the San Rafael River where they are self-sustaining in the upper portions above the Hatt's Ranch Dam. Roundtail chub have been observed to occupy canyon bound waters with deep pools and eddies, similar to what is available in the San Rafael Swell. Roundtail chub have been extirpated from the Price River.

### **3.3.10.3 Affected Environment**

The perennial waters within the analysis area, include Ivie Creek, Muddy Creek, the Price River, Quitchupah Creek, Salt Wash, and the San Rafael River. The water crossings within the TMA through these perennial streams include bridges and low water crossings (see Section 3.3.8 Water Resources).

The rivers supporting the AOI for the T and E species, Price and San Rafael Rivers, have both bridges and low water crossings. All bridge crossings those rivers occur on routes designated as open to OHV use with the existing management plan (Alt A) and all alternatives. The San Rafael River has four bridge crossings, two of which are major designated roadways, I-70 and US-24. The Price River has two bridge crossings, one of those being the major designated roadway, US-6.

Low water crossings have the most negative impacts to fishes in streams within the TMA. For the number and type of low water crossings in the analysis area, see Section 3.3.8.2. The low water crossings change between the existing conditions (Alt A) and the alternatives. Within the AOI for the T&E fish, there are 2 low water crossings on the Price River for routes designated as open, and one on the San Rafael Swell river. Within the Muddy Creek, there are 3 low water crossings.

Human activity such as public route use, sign installation, route maintenance, roadside parking, and passing results in impacts to fish and fish habitat. Use of travel routes in this TMA alters the physical or chemical habitat, and may cause mortality from impacting spawning habitat, spawning activity, and vehicle strikes at crossings. OHV use, maintenance activities, parking, and passing in or near streams can increase erosion, sedimentation, salinity, streambed compaction, and contaminant delivery into habitat for special status fishes. Upland travel routes can also be a source and a conduit for OHV-related

contaminants and sediment. OHV use during wet periods can result in surface rutting or head-cutting, particularly in washes or streams. Erosion and head-cutting can lead to channel incision and subsequent lowering of the water table, ultimately causing streams to lose connectivity to floodplains, resulting in a loss of riparian habitat. Mortality of riparian vegetation and compaction of riparian and wetland soils from OHV travel and maintenance activities can cause reduced infiltration, breakdown of vegetation capillary action, drying up or dusting of wetlands and riparian areas, bank instability, and increased erosion. Travel routes traversing through saline soils may also contribute to increased downstream salinity. Deposition and aggradation within critical side-channel and backwater habitat can lead to the degradation or eventual loss of important nursery habitats. Colonization of newly deposited sediment increases invasive woody species (e.g., tamarisk, Russian olive) ultimately furthering the impact on important riparian, backwater, and side-channel habitats. In some cases, important gravel and cobble substrates may be buried in finer sediments resulting in streambed compaction. Route networks with open or limited designations can perpetuate OHV use-related effects.

### **3.3.10.4 Environmental Effects Analysis**

When creating the alternative route networks, the BLM evaluated special status fish resources and avoided or minimized effects at a route specific level considering the goal of the alternative and using resource-, route-, and alternative-appropriate measures including but not limited to closure (avoidance) and the minimization measures described in the Implementation Guide, Appendix H. When BLM identified disproportionally large OHV impacts to special status fish or unresolved conflicts, the BLM prioritized closure regardless of alternative. For open and limited routes, BLM would implement measures from Appendix H to monitor and minimize impacts.

The nature of the impacts of Alternatives A through E are the same as are currently occurring. Open and Limited designations perpetuate OHV effects. Closed designations eliminate the OHV effects. Alternative B has fewer open roads with associated habitat impacts. Alternatives C, D, and E have respectively more roads with associated impacts to fish and habitats from erosion and water crossings. The effects will occur for the lifetime of the route designations, assumed to be long term.

Low water crossings can directly impact waterways by changing the structure of the stream and increasing impacts downstream through increased erosion and streambed compaction. The number of low water crossing change between alternatives. Within the AOI of the T and E Fish, there are two low water crossing on the Price River, and Alternative D would increase the number of designated routes with low water crossings on the Price River from two to six within the TMA, while the Alternative E would reduce the low water crossings to one. The San Rafael River low water crossing would stay the same between alternatives, one low water crossing located on a state Wildlife Management Area at Fuller's Bottom.

Bridges and low water crossings have a direct influence on stream morphology. Depending on bridge design, impacts can include impeding the ability of fish to migrate past bridges structures or influencing stream morphology to a level that would complicate fish passage. These effects can indirectly decrease water quality and lower food supply. Because there is no change in the number or location of the bridge crossings between the alternatives, the effects due to the bridge crossing are expected to stay the same.

TMP implementation activities (Appendix H) that could result in compaction or increased sediment or contaminant load to fish habitats include route maintenance such as category 1 activities (e.g., surface and ditch blading), reclamation (e.g., raking), and sign placement (e.g., digging post holes). These effects would occur in very short time frames (estimated to be one to four days' worth of work, though it may be longer for longer routes). TMP implementation activities that could minimize compaction, sediment, or contaminant load to fish habitats include sign placement directing OHVs to routes that are less disruptive to waterways, maintenance of route drainage to control erosion, network enforcement, impact monitoring, and route reclamation as appropriate. These effects would occur over longer timeframes.

Table 3-48 shows the difference in the magnitude of the impacts between the alternatives through acres of habitat in the TMA within a 0.5-mile buffer of evaluated routes as an impact indicator. The other variation between the alternatives is which routes are open, as displayed in the alternative maps (see Map 2 – Map 6 in Appendix B).

**Table 3-48: Acres of Special Status Fish Habitat within Half-Mile Buffer of OHV-Open or OHV-Limited Routes by Alternative**

Species	Conservation Status	Acres of Habitat in TMA	Alternative A Area of Impact (Acres)	Alternative B Area of Impact (Acres)	Alternative C Area of Impact (Acres)	Alternative D Area of Impact (Acres)	Alternative E Area of Impact (Acres)
<b>ESA Listed Fish Species</b>							
Colorado Pikeminnow	Endangered	11,831	8,063	4,313	9,494	11,593	7,095
Bonytail	Endangered	848	848	834	1,005	1,005	834
Razorback Sucker	Endangered	848	848	834	1,005	1,005	834
Humpback Chub	Threatened	-	-	-	-	-	-
<b>BLM Sensitive Fish Species</b>							
Flannelmouth Sucker	BLM Sensitive	7,221	398	200	533	890	301
Bluehead Sucker	BLM Sensitive	7,100	398	200	533	890	301
Roundtail Chub	BLM Sensitive	6,814	378	187	519	877	288

#### 3.3.10.4.1 Alternative A (No Action)

Under Alternative A, the effects described previously and quantified in Table 3-48 would continue to occur on those routes designated OHV-Open. Under Alternative A, perennial stream effects would continue in designated OHV-Open routes. Low water crossings would continue to impact favorable habitat for fishes in all the perennial streams in the TMA. Sedimentation, salinity, riparian habitat degradation would continue to occur due to use of routes designated as open. Under alternative A, routes currently designated as open affect 8,063 acres of AOI for the Colorado Pikeminnow and 848 acres for the bonytail and the razorback sucker. There are two low water crossings within the AOIs for the T and E fish on the Price River and one on the San Rafael River. And there are 3 low water crossings on the Muddy creek

#### 3.3.10.4.2 Alternative B (Resource Protection Emphasis)

Under Alternative B, routes with low water crossings known to have direct resource conflicts for fish species were closed to the extent possible. The Alternative B travel network would reduce acres of impacts compared to Alternative A. Low water crossings on the Price and San Rafael River would be reduced. The effects described above would occur on those routes designated OHV-Open or OHV-Limited, though at a reduced magnitude and on fewer routes. Under alternative B, routes designated as open affect 4,313 acres of AOI for the Colorado pikeminnow and 834 acres for the bonytail and the razorback sucker. The low water crossings on the Price River would be removed, reducing the 2 low water crossings to zero within the AOI for the Colorado pikeminnow. The low water crossing on the San Rafael River would remain. The three low water crossings on the Muddy creek would remain. Alternative B would have the lowest potential of any alternative for OHV use-related impacts to habitat for each special status wildlife species in the TMA.

#### **3.3.10.4.3 Alternative C (Multiple Use Emphasis)**

Under Alternative C, some routes with known direct resource conflicts for fish species were closed. The Alternative C travel network would increase acres of impacts compared to Alternative A. The effects described above from the evaluated routes and related use and maintenance would continue to occur on those routes designated OHV-Open or OHV-Limited at a reduced magnitude and on more routes. Under alternative C, routes designated as open affect 9,494 acres of AOI for the Colorado pikeminnow and 1,005 acres for the bonytail and the razorback sucker which is a reduction from Alternative A. The low water crossings on the Price River and the San Rafael River would remain the same as Alternative A. The low water crossings on the Muddy would increase from three to five under Alternative C.

#### **3.3.10.4.4 Alternative D (Access Emphasis)**

Under Alternative D, the travel network acreage increases compared to Alternative A. The effects described above would occur on those routes designated OHV-Open or OHV-Limited. Under alternative D, routes designated as open affect 11,593 acres of AOI for the Colorado pikeminnow and 1005 acres for the bonytail and the razorback sucker which is an increase from Alternative A. The low water crossings on the San Rafael River would remain the same as Alternative A. However, on the Price River, the number of low water crossings open to OHV use within the AOI will increase from 2 to 6. Increases to low water crossings open to OHV use on the Price River could alter the physical and biological features of the river potentially impacting the establishment of Colorado pikeminnow in the Price River. Impacts to Colorado pikeminnow from the change are expected to be minimal because the routes and the low water crossings currently exist. By designating them open to OHV use, the action would increase the number of low water crossings open to OHV use, but not create new or additional crossings. The low water crossings on the Muddy Creek would increase from three to 21 under Alternative D. Alternative D would have the highest potential of any alternative for OHV use-related impacts to habitat for fish species in the TMA.

#### **3.3.10.4.5 Alternative E (Public Comment Adjusted Alternative)**

Under Alternative E, some routes with known direct resource conflicts for fish species were closed. The Alternative E travel network would close routes that consist of low water crossings that would be impactful to streams in the TMP. The effects described above from the evaluated routes and related use and maintenance would continue to occur on those routes designated OHV-Open or OHV-Limited at an increased magnitude and on more routes. The impacts are similar to Alternative B. Under alternative E, routes designated as open affect 7,095 acres of AOI for the Colorado pikeminnow and 834 acres for the bonytail and the razorback sucker which is an increase from Alternative A. One low water crossing on the Price River would be removed, reducing the two low water crossings to one within the AOI for the Colorado pikeminnow. The low water crossing on the San Rafael River would remain. The three low water crossings on the Muddy creek would remain.

#### **3.3.10.4.6 Cumulative Effects**

The past, present and foreseeable trends and activities listed in Section 3.2 that occur within the analysis area include travel planning, livestock grazing and grazing management, utilities and water development, wildlife habitat management, recreation, and mineral development. Access to and management of the cumulative actions identified in the affected environment are route dependent. Therefore, Table 2-1, which lists the miles of routes by alternative, supplemented by Table 47, which lists acres of fish habitat impacted, in addition to Tables 3-41 through 3-43 and Figures 3-18 through 3-23, which lists the stream crossings, river crossings, and acres within 100 meters of riparian areas, indicates the potential for change in cumulative effects to fish and their habitat. As documented in the San Rafael Desert TMP, section 3.2.4.2, cumulative actions on the San Rafael River between the TMA and its confluence with the Green River include an additional 2 stream crossings: 1 bridge and 1 flow water crossing. It also includes an additional 27 miles of OHV-open routes within the AOI of ESA-Listed fish habitat. Cumulative actions

on the Price River between the TMA and its confluence with the Green River also include an additional 2 stream crossings: 1 bridge and 1 low water crossing. It also includes an additional 7 miles of routes within the AOI of ESA-Listed fish, mostly on private land. The majority of Price River downstream of the TMA is in designated wilderness. Also note however that some of the cumulative actions may authorized travel on OHV-closed routes. These accumulate OHV-related effects to fish species including erosion, sedimentation, head cutting, and delivery of contaminants such as saline soil sediments into waterways, riparian and wetlands areas, and other surface waters. Redirection of surface water or compaction can result in soil desiccation and riparian vegetation dusting or destruction. These impacts result in water quality impairment, decreases in riparian and wetland health, and degradation of fish habitat.

Under Alternative A, there would be no route designation changes in the TMA. Impacts from ongoing OHV use would reflect a continuation of current conditions, and an overall incremental change to fish and their habitat within the cumulative effects analysis area is not anticipated.

Alternatives B-E would add varying amounts of routes designated for public OHV use (OHV-Open or OHV-Limited) that would perpetuate the route existence but would not create any new routes. These alternatives would also close varying amounts of routes to public OHV use, though it would not affect any authorized use. Any reclamation associated with a route closure would eventually lessen and potentially remove impacts to fish and their habitat.

### **3.3.11 WILDLIFE: SPECIAL STATUS TERRESTRIAL SPECIES (T&E AND BLM SENSITIVE SPECIES)**

*Issue 13: How would the route network alternatives impact federally listed, candidate, and select BLM Sensitive terrestrial wildlife species and their habitat within the TMA?*

The analysis area for Wildlife: Special Status Species (T&E and Select BLM Sensitive Species) is the entire TMA plus any habitat buffers that extend outside the TMA because it is the smallest unit which shows all impacts to special status species and their habitats within the TMA. The temporal scope of analysis is 20 years (see Section 3.1.1). The analysis area includes the San Rafael Swell Recreation Area in which the Dingell Act calls for the protection, conservation, and enhancement of its natural, wildlife, and ecological resources.

#### **3.3.11.1.1 Threatened and Endangered Animal Species**

The animal species which have the potential to occur in the TMA and are listed as Threatened or Endangered under the ESA and their habitats are summarized below. Details on habitat, threats, and trends for the ESA listed species below as well as the BLM sensitive species listed lower in this section can be found in a Biological Resource Evaluation developed by Price and Richfield BLM resource staff, the “Special Status Species” sections of the 2008 Price Proposed RMP/EIS (BLM 2008d, pages 3-36 to 3-49) and the 2008 Richfield Proposed RMP/EIS (BLM 2008f, pages 3-49 to 3-69), the 2008 Price RMP Biological Opinion (USFWS 2008a), and the 2008 Richfield RMP Biological Opinion (USFWS 2008b).

**Table 3-49: Threatened and Endangered Animal Species and Their Habitats**

Species	Status	Habitat information
<p><b>Mexican Spotted Owl</b> <i>(Strix occidentalis lucida)</i></p>	<p><b>Threatened</b></p>	<p>The Mexican Spotted Owl is a medium-sized owl that occurs in the forested mountains and canyonlands of the southwestern United States and Mexico. The 2012 Mexican Spotted Owl Recovery Plan identifies five Ecological Management Units (EMUs). The San Rafael Swell TMA falls within the Colorado Plateau Ecological management unit. In this unit the species primarily inhabits deep, steep-walled canyons and hanging. Threats to owls in this EMU include recreation and climate change (USFWS 2023b). Recreation use including hiking, camping, canyoneering, and OHV use is a primary use of the modeled habitat within the TMA. Owls use narrow canyons where they have less opportunity to move away from human activity, which compounds the potential for recreation to negatively affect owl presence and recovery. For additional details on Mexican Spotted Owl habitat, threats, and trends see the <i>Mexican Spotted Owl Recovery Plan</i> (USFWS 2012) and the <i>Mexican Spotted Owl (Strix occidentalis lucida) 5-Year Status Review</i> (USFWS 2023b)</p> <p>The Recovery Plan recognizes two habitat models to be used as tools to identify and protect MSO habitat. The 1997 Willey-Spotskey's MSO Habitat Model (1997 Model) is recognized as a broader estimate of habitat, and was used during this large scale TMP effort. The model identifies 573,120 acres of potential habitat, with approximately 136,553 acres potentially offering some level of breeding capability. Of the potential breeding habitat, there are 88,004 acres or 64 percent within designated wilderness areas. Designated critical habitat and the nearest Protected Activity Center (PAC) is located approximately 10 miles to the south of the TMA within Capital Reef National Park. Additional PACs are located in Desolation Canyon to the north and east of the TMA, and to the south of the TMA along the Green and Colorado Rivers</p> <p>There have been no detections of Mexican Spotted Owls with recent surveys. One deceased owl was recorded near the San Rafael Reef Wilderness in 1993.</p>

Species	Status	Habitat information
<b>Southwestern Willow Flycatcher</b> <i>(Empidonax traillii extimus)</i>	<b>Endangered</b>	<p>The Southwestern Willow Flycatcher is a small passerine bird associated with riparian habitats, and one of four currently recognized subspecies of <i>Empidonax traillii</i> (USFWS 1995a, 2002b). No Critical Habitat has been designated on lands administered by the Price BLM. The closest critical habitat is within the Grand Staircase National Monument, approximately 100 miles southwest of the TMA.</p> <p>The Southwestern Willow Flycatcher is a riparian obligate species and nests in dense riparian habitat. Although often considered to use only cottonwood-willow associations, it is known to nest in various exotic species in the southwest, such as tamarisk (<i>Tamarix</i> spp.) and Russian olive (<i>Elaeagnus angustifolia</i>). Breeding territories have been found primarily where surface water or saturated soil is present, and nests are usually less than 20 meters from water (Johnson 2005). Because the suitable riparian habitats tend to be uncommon and isolated, one major threat to the species includes habitat loss and modification. For more information on the status and trend of the species refer to the 5-year review and the 2002 recovery plan (USFWS 2014, USFWS 2002b).</p> <p>Using the current USFWS defined range, the TMA has 12,418 acres of potential habitat on the northern edge of Goblin Valley State Park and 9,756 acres are located within designated Wilderness boundaries in the TMA. Due to the cooler temperatures and the arid environment common in the TMA, it is unlikely for the southwestern willow flycatchers to occur within the TMA.</p>
<b>Yellow-billed Cuckoo</b> ( <i>Coccyzus americanus</i> )	<b>Threatened</b>	<p>The Yellow-billed cuckoo is a riparian obligate species with a genetically distinct population found in the western United States. The species nests in low to moderate elevation deciduous riparian woodlands containing dense understory with a thick canopy component (USFWS 2021c, NPS 2014). Critical habitat was designated in 2021 outside of the TMA, on a section of the Green River, north of the town of Green River. Designated Critical Habitat for the yellow-billed cuckoo occurs approximately 11 miles to the east from the eastern most part of the TMA's outer boundaries (USFWS 2021c). The nearest route within the TMA is located approximately 13 miles outside of critical habitat. Though their current distribution in Utah is poorly understood, they are currently accepted as a rare breeder in lowland riparian habitats statewide. Much of the riparian habitat suitable for the yellow-billed cuckoo has been converted to farmland and housing, leading to population declines. A recovery plan has not been written at this time.</p> <p>Within the TMA there are 1,153 acres of potential habitat for the yellow-billed cuckoo. Approximately 414 acres (35%) are within the boundaries of designated Wilderness areas. Suitable habitat within the TMA is limited by dry conditions, narrowness of existing riparian zones, and grazing. There is a possibility of yellow-billed cuckoos to utilize the riparian areas within the TMA as migration corridors.</p>

Species	Status	Habitat information
<b>Monarch Butterfly (<i>Danaus plexippus</i>)</b>	<b>Proposed</b>	Monarchs rely on milkweed for their reproductive success. There are two distinct populations of monarchs in the United States that are split geographically by the Rocky Mountains and have variation in reproductive behavior, wing morphology, flight performance, and disease/parasite resistance (USFWS 2020b). The western population of monarch butterflies and milkweed have been sighted in and around the TMA, though information on the abundance of both monarchs and milkweeds within the TMA is sparse. Monarchs in the western U.S. tend to be associated with rivers and other riparian habitat (Jepsen et al. 2015), which may be especially true in the TMA as vegetation tends to be sparse in the drier areas. Due to the ambiguity of monarch habitat features, a focus was placed on areas in the TMA with persistent moisture in the analysis of impact to monarch habitat. Wetland and riparian areas within the TMA were given a 100-meter buffer, which is consistent with 2008 Price RMP water and riparian management (WAT) decision, WAT-8, in the delineation of potential high-value monarch habitat (Appendix C, map 8). A total of 25,521 acres of potential habitat was identified with 13,318 acres within the designated wilderness areas.

### 3.3.11.1.2 Select BLM Sensitive Animal Species

The TMA contains habitat for the following select BLM Sensitive animals: burrowing owl, ferruginous hawk, golden eagle, kit fox, and white-tailed prairie dog. These specific species were selected for detailed analysis due to their having a potentially greater sensitivity to OHV use within their habitats. Further information about these species can be found in the UDWR Wildlife Action Plan 2015-2025 (UDWR 2015), NatureServe Explorer (NSE 2024), and BLM Instruction Memorandum No. UT IM-2019-005.

**Table 3-50: BLM Sensitive Wildlife Species and Their Habitats**

Species	Habitat information <sup>52</sup>
<b>Birds</b>	
Burrowing Owl ( <i>Athene cunicularia</i> )	This species is migratory, arriving in its northern breeding range around April-May, and known to inhabit open grassland and prairies, using abandoned animal burrows at sites that occur in a variety of shrub-dominated habitats, often in sparsely vegetated areas. This species has known occurrences within the TMA. Within this TMA Burrowing Owls will be closely tied to white-tailed prairie dogs since they predominantly utilize old prairie dog burrows for nesting. USGS Gap Analysis models show approximately 64% of the TMA to be potentially suitable habitat.
Ferruginous Hawk ( <i>Buteo regalis</i> )	This species is known to inhabit grasslands, agricultural areas, shrub lands, and the periphery of pinyon-juniper forests, breeding in semiarid open country, typically near prairie dog colonies. Multiple occurrences exist within and around the TMA in Carbon, Emery, and Wayne counties. Additionally, desert shrub and desert grassland vegetation habitat types are often used by this species. USGS (2019) Gap Analysis shows suitable habitat throughout the TMA, comprising approximately 46% of the total acres.
Golden Eagle ( <i>Aquila chrysaetos</i> )	This species is known to inhabit open and semi-open country especially in hilly or mountainous regions in areas with sufficient mammalian prey base. There are known golden eagle nests recorded within the TMA and UDWR (1997) Gap analysis shows abundant high value habitat across roughly 95% of the TMA.

<sup>52</sup> Unless otherwise stated, habitat descriptions come from BLM specialists and NSE 2024.

Species	Habitat information <sup>52</sup>
<b>Mammals</b>	
Kit fox ( <i>Vulpes macrotis</i> )	This species is found in scattered areas throughout Utah and associated with sparsely vegetated arid habitat, primarily greasewood, shadscale, and sagebrush-dominated habitat. The species has been observed across the TMA.
White-tailed prairie dog ( <i>Cynomys leucurus</i> )	This species is found in much of Wyoming and western Colorado, extending into eastern Utah and a small portion of southern Montana. They require relatively deep, well-drained soils, for development of burrows and inhabit areas with flat to gently rolling slopes in grasslands and high desert scrub. White-tailed prairie dogs can be commonly observed within the TMA, potential habitat is extensive throughout the TMA, and the 2008 Price RMP has designated crucial habitat within the TMA. Prairie dogs are susceptible to mortality events with vehicles as they tend to dig burrows close to roadways.

### 3.3.11.2 Affected Environment

Public visitation and route use levels within the TMA vary by season. High-visitation months coincide with the spring reproductive seasons. Human activity such as public route use, sign installation, route maintenance, roadside parking, and passing results in mortality, injury, habitat destruction, and habitat alteration (Brooks and Lair 2005, Ouren et al. 2007, Trombulak and Frissell 2000) from collisions with OHVs and destruction of eggs, nests, and burrows by unwitting individuals. Inner-ear bleeding can occur in small mammals exposed to OHV-generated noise (Ouren et al. 2007). Travel routes that go through or are adjacent to nesting, burrowing, or riparian habitat areas are of particular concern. Human activity can trigger behavioral changes like increased flight and vigilance, and result in the disruption or displacement of other essential behaviors including breeding, nesting, foraging, hunting, and predator-avoidance activities (Larson et al. 2016, Ouren et al. 2007, Trombulak and Frissell 2000).

Noise from OHVs can negatively impact birds by affecting nest-site selection or masking biologically important sounds, including mating calls or predator and prey sounds (Ortega 2012). These OHV noise disturbances can vary from abrupt and brief, like the disturbance caused by a single user passing by, to extended, like those resulting from high traffic volumes on a busy holiday. Accordingly, species' responses may also range from brief, immediate responses, such as alerting or flushing, to more long-term responses like abandonment of preferred habitat (Kaselloo and Tyson 2004, Ortega 2012). These behavioral changes result in increased expenditures of time and energy towards avoiding humans and decreased expenditures of time and energy towards beneficial activities like foraging or caring for young, ultimately causing declines in abundance and occupancy, reduced reproductive success, and altered species richness and community composition (Larson et al. 2016, Ouren et al. 2007).

Non-native species spread can reduce native vegetative cover and change the physical and chemical (e.g., altered and amplified erosion patterns, reduced water infiltration, reduced water quality, reduced soil fertility, and increases in pollutants (Brooks and Lair 2005, Ouren et al. 2007, Trombulak and Frissell 2000)) resulting in decreased native wildlife populations, species richness, and community composition (Larson et al. 2016, Ouren et al. 2007, Trombulak and Frissell 2000). Reduced density, diversity and biomass of lizards, birds, small prey species, and even special status predators like the BLM sensitive kit fox have been associated with OHV use areas (Ouren et al. 2007, Jones et al. 2017).

The environmental changes outlined above have historically favored generalist species, like coyotes and ravens, at the expense of specialist species, like kit foxes and burrowing owls (Wilson and Willis 1975, With and Crist 1995, McKinney 1997, Hoffmeister et al. 2005). Extreme weather such as drought, extreme heat or cold, or heavy snowfall exacerbate these effects.

### 3.3.11.3 Environmental Effects Analysis

When creating the alternative route networks, the BLM evaluated special status terrestrial wildlife resources and avoided or minimized effects at a route specific level considering the goal of the alternative and using resource-, route-, and alternative-appropriate measures including but not limited to closure (avoidance) and the minimization measures described in the Implementation Guide, Appendix H. When BLM identified disproportionally large OHV impacts special status wildlife or unresolved conflicts, the BLM prioritized closure regardless of alternative. For open and limited routes, BLM would implement measures from Appendix H to monitor and minimize impacts.

The nature of the impacts of Alternatives A through E are the same as currently occurring. OHV-Open and OHV-Limited designations perpetuate the OHV effects. Closed designations eliminate the OHV effects. Table 3-51 through Table 3-52 summarize the effects specific to each BLM sensitive wildlife species present in the TMA. Alternative B has fewer open roads with associated noise and habitat impacts. Alternatives C, D, and E have respectively more roads with associated impacts to wildlife and habitats from noise and route existence. The effects will occur for the lifetime of the route designations, assumed to be long term.

TMP implementation activities (Appendix H) that could remove, crush, or dust forage or habitat of special status terrestrial wildlife include route maintenance (e.g., surface and ditch blading.), reclamation (e.g., raking), and sign placement (e.g., digging post holes). Wildlife themselves could be affected by the noise of the maintenance equipment. These effects would occur in very short time frames (estimated to be one to four days' worth of work, though it may be longer for longer routes). TMP implementation activities (Appendix H) that could minimize impacts to special status terrestrial wildlife and their habitats include sign placement directing OHVs to routes that are less disruptive to special status species habitat, maintenance of existing routes to repair route drainage and avoid users driving around washed-out areas, enforcement of the route network, monitoring of route effects, and reclamation of routes as appropriate. These effects would occur over longer timeframes.

Analysis of impacts was done by buffering potential habitat for each species then calculating the total acreage of potential habitat. Buffer distances differed by species and are listed in Table 3-51. Table 3-51 and Table 3-52 show the difference in the magnitude of the impacts between the alternatives. The other variation between the alternatives is which routes are open, as displayed in the alternatives maps (see Maps 2-6 in Appendix B). Habitat areas are determined from the best available data for each species, including data from USFWS, UDWR, USGS, and BLM.

**Table 3-51: Acres of T and E Listed Wildlife Potential Habitat Within Species-Specific Buffers of OHV-Open and OHV-Limited Routes by Alternative**

Species	Conservation Status	Buffer Distance	Acres of Potential Habitat in TMA	Alt A Area of Impact (Acres)	Alt B Area of Impact (Acres)	Alt C Area of Impact (Acres)	Alt D Area of Impact (Acres)	Alt E Area of Impact (Acres)
<b>T&amp;E Species</b>								
Mexican Spotted Owl*	Threatened	0.5 mile	573,120	264,690	221,417	285,826	323,200	264,075
Southwestern Willow Flycatcher	Endangered	0.25 mile	12,418	2,590	2,252	2,398	2,590	2,398
Yellow-billed Cuckoo	Threatened	0.25 mile	1,153	391	342	535	580	388
Monarch butterfly	Candidate	100 meters	25,521	2,403	1,964	3,009	4,057	2,513

Note: \* Denotes a peer reviewed model was utilized.

**Table 3-52: Acres of BLM Select Sensitive Wildlife Potential Habitat Within Species-Specific Buffers of OHV-Open or OHV-Limited Routes by Alternative**

Species	Buffer Distance	Acres of Potential Habitat in TMA	Alternative A Area of Impact (Acres)	Alternative B Area of Impact (Acres)	Alternative C Area of Impact (Acres)	Alternative D Area of Impact (Acres)	Alternative E Area of Impact (Acres)
<b>Birds</b>							
Burrowing Owl	0.25 mile	842,564.	260,468.	230,182	298,593	344,014	271,410
Ferruginous Hawk	0.5 mile	608,326.	319,737	285,759	355,032	383,446	328,712
Golden Eagle	1 mile	1,229,229.	592,213	530,370	654,648	723,051	607,723
<b>Mammals</b>							
Kit fox	40 feet	470,413	95,859	85,589	111,260	133,504	100,184
White-tailed prairie dog	660 feet	508,670	91,730	80,9252	108,516	127,505	96,440

### 3.3.11.3.1 Alternative A (No Action)

Under alternative A, there are routes designated as open within habitat for the four T and E listed species with potential to occur within the TMA as well as five BLM sensitive species carried forward for analysis. Under Alternative A, the effects described previously and quantified in Table 3-51 and Table 3-52 would continue to occur on those routes designated OHV-Open.

### 3.3.11.3.2 Alternative B (Resource Protection Emphasis)

Under Alternative B, some routes with known direct resource conflicts for T&E and special status wildlife species were closed. The Alternative B travel network would reduce acres of impacts compared to Alternative A. There are routes open within all the potential habitat for the species. The effects described above would occur on those routes designated OHV-Open or OHV-Limited, though at a reduced magnitude and on fewer routes. The largest reduction was within the potential habitat for MSO; from 264,690 acres to 221,417 acres affected. Alternative B would have the lowest potential of any alternative for OHV use-related impacts to habitat for each special status wildlife species in the TMA.

### 3.3.11.3.3 Alternative C (Multiple Use Emphasis)

The Alternative C travel network would increase acres of impacts compared to Alternative A. The largest increase in acres of potential habitat affected would occur within potential habitat for MSO with an increase of approximately 21,000 acres. The effects described above from the evaluated routes and related use and maintenance would continue to occur on those routes designated OHV-Open or OHV-Limited at an increased magnitude and on more routes.

### 3.3.11.3.4 Alternative D (Access Emphasis)

Under Alternative D, the travel network acreage increases compared to Alternative A. The effects described above would occur on those routes designated OHV-Open or OHV-Limited. Within the TMA only 1,153 acres are identified as potential habitat for YBCC, and much of that habitat is isolated and of marginal value due to the small size and lack of canopy structure. Under Alternative D, one mile of additional route would be designated open, resulting in an increase from 391 acres affected to 580 miles affected. In potential SWFL habitat there would be no change from Alternative A as the same roads would be open. In potential MSO habitat, Alternative D would increase miles of routes designated as open and increase the acres within the impact zone (1/2 mile of a route) from 264,690 acres to 323,200 acres within the potential habitat and there is 573,120.5 acres of potential habitat within the TMA. The

increase in routes designated as open to OHV could affect the birds at nesting and roosting sites through disturbance from OHVs and habitat fragmentation from route networks, loss of hydrologic function in riparian areas from travel route compaction, and the introduction of noxious weeds and invasive species (from OHV and use-related soil disturbance). Current surveys did not detect MSOs within the TMA and noted that much of the potential habitat was arid and lacked the narrow gorge habitat that the birds prefer. If there are birds within the TMA, it is likely the effect of the increase in routes designated as open would be mitigated because the routes currently exist and receive use. There would be no new construction, just continuation of the use. In addition, 269,488.9 acres of the potential habitat within the TMA is within wilderness areas. The protection through the wilderness areas is new since 2019. The habitat within the wilderness areas will be protected from motorized intrusions. Within potential habitat for Monarchs, Alternative D would increase the miles of routes open to OHV use from 34 to 61.5 and may affect approximately 16 percent of the potential habitat. Alternative D would have the highest potential of any alternative for OHV use-related impacts to habitat for special status terrestrial wildlife species in the TMA.

### **3.3.11.3.5 Alternative E (Public Comment Adjusted Alternative)**

Under Alternative E, some routes with known direct resource conflicts for T&E and special status wildlife were closed. The Alternative E travel network would have similar impacts compared to Alternative A. For the T and E listed species there is a less than 1% reduction of impacts to the species potential habitat when compared to Alternative A. Within potential MSO habitat, there would be a reduction of 600 acres of potential habitat affected. Within potential habitat for SWFL there would be a reduction of approximately 200 acres of potential habitat affected. Within potential habitat for YBCC there would be a reduction of approximately 10 acres of potential habitat. There would be a slight increase of approximately 4% or 100 acres of habitat affected. The effects described above from the evaluated routes and related use and maintenance would continue to occur on those routes designated OHV-Open or OHV-Limited at an increased magnitude and on more routes.

### **3.3.11.3.6 Cumulative Effects**

The past, present and foreseeable trends and activities listed in Section 3.1 that occur within the TMA besides travel management include livestock grazing, utilities and water development, wildlife habitat management, recreation, and mineral development. Access to and management of the cumulative actions identified in the affected environment are route dependent. Therefore, Table 2-1, which lists the miles of routes by alternative, supplemented by Tables 3-50 and 3-51, which lists the acres within potential habitat and species-specific buffers, indicates the potential for change in cumulative effects to special status species. Note however that some of the cumulative actions may authorize travel on OHV-closed routes. accumulate human activity-related effects to T&E and select BLM sensitive wildlife species including disturbance or displacement; loss of prey species; reduced reproductive success; alterations in species richness and community composition; burrowing, brooding, and foraging habitat; mortality; and habitat degradation or alteration. The establishment and spread of invasive species and noxious weeds associated with those activities also compete with these T&E and special status species and their habitats.

Under Alternative A, there would be no route designation changes in the TMA. Impacts from ongoing OHV use would reflect a continuation of current conditions, and an overall incremental change to sensitive wildlife within the cumulative effects analysis area is not anticipated.

Alternatives B-E would add varying amounts of routes designated for public OHV use (OHV-Open or OHV-Limited) that would perpetuate the route existence but would not create any new routes. These alternatives would also close varying amounts of routes to public OHV use, though it would not affect any authorized use. Any reclamation associated with a route closure would eventually lessen and potentially remove sensitive wildlife-related impacts.

## 4 CONSULTATION AND COORDINATION

### 4.1 CONSULTATION

#### 4.1.1 NATIONAL HISTORIC PRESERVATION ACT (NHPA) SECTION 106

The BLM conducted NHPA consultation in accordance with the 2018 Travel PA. These consultation efforts included seeking input from Indian tribes, consulting parties, and SHPO regarding identification of the undertaking's Areas of Potential Effect (Stipulation III.A.1.b.), Price Field Office Class I Inventory and Site Potential Model (Stipulation III.A.2.), determining the need for Phased Class II Surveys after approving the TMP (Stipulation III.B.1.), the BLM's NHPA Section 106 determination of effect (Stipulation IV.), and BLM's resolution of adverse effects through development of an Historic Property Treatment Plan (Stipulation V.).

The following 16 tribes have self-identified as being culturally associated with the PFO and RFO jurisdictions and were consulted:

The Hopi Tribe	Pueblo of Laguna
Jicarilla Apache Nation	Pueblo of Santa Clara
Kaibab Band of Paiute Indians	Pueblo of Zia
Navajo Nation	San Juan Southern Paiute Tribe
Northwestern Band of the Shoshone Nation	Shoshone-Bannock Tribes of Fort Hall
Paiute Indian Tribe of Utah	Southern Ute Indian Tribe
Pueblo of Acoma	Ute Indian Tribe of Uintah & Ouray Reservation
Pueblo of Jemez	Ute Mountain Indian Tribe, including White Mesa Ute

The following 34 organizations were identified as, or requested to be, NHPA Section 106 consulting parties for this TMP:

Blue Ribbon Coalition	Piute County Commission
Canyonlands National Park	Public Lands Equal Access Alliance
Capitol Reef National Park	Public Lands Policy Coordinating Office
Castle Country OHV Association	Ride with Respect
Colorado Off-Highway Vehicle Coalition	Sage Riders Motorcycle Club
Colorado Trails Preservation Alliance	Sanpete County Commission
Colorado Plateau Archaeological Alliance	Sevier County Commission
Emery County Commission	Southern Utah Wilderness Alliance
Fishlake National Forest	Trust Lands Administration
Garfield County Commission	Utah Division of Parks and Recreation
Glen Canyon National Recreation Area	Utah Four-Wheel Drive Association
King Crawlers	Utah Professional Archaeological Council
Latter-Day Saints Church, History Department	Utah Rock Art Research Association
National Park Service, National Trails Office	Utah Shared Access Alliance
Northern Utah ATV Trail Riders	Utah State Historic Preservation Office (SHPO)
Nine Mile Canyon Coalition	Utah Statewide Archaeological Society
Old Spanish Trail Association	Wayne County Commission

As stipulated in the Travel PA, BLM conducted the following consultations with the above parties:

<b>Travel PA Stipulation</b>	<b>Subject</b>	<b>Consultations Distributed On</b>	<b>Input Received and Considered in Development?</b>
III.A.1.b.	Identifying Areas of Potential Effect	April 4, 2019; April 8, 2019.	Yes
III.A.2.	Price Field Office Class I Inventory and Site Potential Model	January 7, 2016; January 29, 2016; January 17, 2018; February 12, 2019; February 21, 2019.	Yes
III.B.1.	Determining the Need for Phased Class II Surveys After Approving TMP	November 8, 2024	Yes
I.V.D.	Adverse Effects (Finding of Effect)	July 12, 2024; July 17, 2024; August 9, 2024.	Yes
V.	Resolution of Adverse Effects through Historic Property Treatment Plan	October 18, 2024; October 21, 2024.	Yes

#### **4.1.2 GOVERNMENT-TO-GOVERNMENT TRIBAL CONSULTATION**

Owing to the amount of time that lapsed between the initial project information sharing and the most recent work associated with the proposed action, updated information sharing and invitations to engage in government-to-government consultation under Executive Orders 13175 and 13007, guided by the 2022 Presidential Memorandum on tribal consultation standards and 2021 Presidential Memorandum on strengthening nation-to-nation relationships, were sent to the following Tribes on December 13, 2023, including:

- Paiute Indian Tribe of Utah
- San Juan Southern Paiute Tribe
- Ute Mountain Ute Tribe
- Ute Indian Tribe of the Uintah & Ouray Reservation, Utah
- Southern Ute Indian Tribe of the Southern Ute Reservation, Colorado
- Santo Domingo Pueblo
- Pueblo of Zia, New Mexico
- Pueblo of Santa Clara, New Mexico
- Pueblo of Acoma, New Mexico
- Pueblo of Laguna, New Mexico
- Pueblo of Jemez, New Mexico
- Jicarilla Apache Nation, New Mexico
- Hopi Tribe of Arizona
- Shoshone Bannock Tribes of the Fort Hall Reservation
- Northwestern Band of the Shoshone Nation
- Navajo Nation, Arizona, New Mexico, & Utah

Following this renewed information sharing effort, the Paiute Indian Tribe of Utah requested additional information regarding the proposed undertaking. A meeting to discuss the purposes of travel management in general and the specifics of the proposed action was held with representatives of the Paiute Indian Tribe of Utah on February 5, 2024.

Government to government consultation regarding resources of concerns remains ongoing. The BLM will honor any requests from Tribes regarding additional information or additional meetings.

#### 4.1.3 ENDANGERED SPECIES ACT SECTION 7

The BLM has coordinated with the USFWS to determine the analysis areas for listed species. The BLM submitted a Biological Assessment (BA) on September 6, 2024, then in coordination with USFWS updated the Biological Assessment in October and November 2024. Coordination and communication with the USFWS continued until December 16, 2024, when the USFWS issued their Biological Opinion. For details on the committed conservation actions and the analysis refer to the BA (BLM 2024d) in Appendix L and the Biological Opinion (USFWS 2024b) in Biological Opinion. Four alternatives (A, B, C, and D) were developed during the planning of the TMP. Because the alternatives do not authorize the construction of any new routes, only designating those that currently exist, the variation in amount of impact comes from the route designation differences between alternatives. The PFO and RFO considered Alternative D early in the planning process, which is the alternative with a focus on preserving the most OHV access. As such, it is also the alternative expected to have the greatest potential for impacting ESA-listed species and their habitats within the TMA. Additionally, every route that is analyzed as open in Alternatives A through C is also analyzed as open in Alternative D and likewise there are no routes analyzed in Alternatives A through C with reduced restrictions when compared to Alternative D. Therefore, the impacts associated with Alternative D fully encapsulate the impacts associated with other Alternatives. Based on the analysis in the EA and the BA, the BLM determined that implementation of Alternative D *May Affect* and is *Likely to Adversely Affect* Barneby reed mustard, Jones cycladenia, Last Chance townsendia, San Rafael cactus, Ute ladies'-tresses, Winkler cactus, and Wright fishhook cactus, Colorado Pikeminnow, Mexican Spotted Owl. And determined No Affect to the designated critical habitat for the Colorado Pikeminnow and the Mexican spotted owl. And the BLM determined that implementation of Alternative D, *May Affect* but is *Not likely to Adversely Affect*, bonytail, humpback chub, razorback sucker, Southwestern Willow Flycatcher, and Yellow-billed Cuckoo. And determined no Affect to the critical habitat for the bonytail, humpback chub, razorback sucker, Southwestern Willow Flycatcher, and the Yellow-billed Cuckoo. BLM also determined that Alternative D will not likely jeopardize the continued existence of the monarch butterfly. In alternative D, 89% of the evaluated route miles would be designated OHV-Open, 8% would be designated OHV-Limited, and 2% would be closed.

After the Draft EA public comment period, the BLM constructed a new alternative, Alternative E to address public comments. This alternative was designed to provide recreation opportunities for all visitors while minimizing the potential for user conflicts and damage to natural and cultural resources. It was designed to reduce impacts to wildlife habitats, special status species habitats, natural and cultural resources, ecosystems, and landscapes such as BLM Natural Areas and LWCs. Alternative E is entirely within the scope of the Section 7 Consultation. In alternative E, 63% of the evaluated route miles would be designated OHV-Open, 7% would be designated OHV-Limited, and 31% would be closed.

Because Alternative E would designate only 63% of the evaluated routes as open, the effects to T & E species are less than described in the BA and BO.

## 4.2 PUBLIC INVOLVEMENT

The BLM held a public scoping period for this plan in 2021. In addition to the public notification, the BLM informed the cooperating agencies, tribes, and nearby city mayors of the period and invited them to participate. See Section 1.6 and this plan's Scoping Report on this plan's ePlanning page<sup>53</sup> for a summary of public scoping.

<sup>53</sup> <https://eplanning.blm.gov/eplanning-ui/project/1500146/510>

In accordance with the Settlement Agreement requirements, the BLM released the preliminary alternatives, the scoping report, the baseline monitoring report, and the preliminary route reports to the public on February 22, 2024. In addition to the public notification, the BLM informed the cooperating agencies, tribes, and nearby city mayors of the release and invited them to participate.

The BLM held a public comment period from June 6 through July 22, 2024. In addition to the public notification, the BLM informed the cooperating agencies, tribes, and nearby city mayors of the release and invited them to participate. The agency held face-to-face public meetings in Green River, Utah on June 25, and Castle Dale, Utah on June 26, 2024. The BLM also held an online public meeting via Zoom on June 27, 2024. The face-to-face public meetings were townhall style in which the BLM held a short presentation and then the attendees were allowed to visit various resource or resource use stations with information and specialists present to answer questions. Approximately 60 people in total attended the three public meetings. By the end of the 47-day public comment period, the BLM had received approximately 6,000 comment submissions. The BLM responded to substantive comments which can be found in Appendix K. There were approximately 245 comments that were considered substantive and have BLM responses. Of those substantive comments, approximately 139 of them led to changes or updates to the EA and/or route reports. There were a total of 900+ route-specific comments, of which some routes dozens of comments and oftentimes contradictory information and opinions on whether the route should be open, closed, or limited. Although most of the route-specific comments were not considered substantive and did not receive a specific response, the BLM still closely reviewed the public's concerns and opinions and used that input to help craft the development of Alternative E. The public expressed a great deal of interest in keeping the existing single-track motorcycle trail systems in Humbug and Temple Mountain areas open, and in providing difficult trail experiences for motorcycles, UTVs, and Jeeps. The BLM also received a lot of concern about sensitive cultural resources and natural resource protections. The public expressed interest in keeping short spur routes that access campsites open and available, but also interest in closing those type of routes near water sources/riparian areas. There was also interest in opening existing routes if they lead to destinations such as overlooks, geological features, or historic sites.

#### 4.2.1 COOPERATOR INPUT

An Emery County public lands administrator, a Sevier County commissioner, Utah Trust Lands Administration (TLA) employees, and State of Utah Public Lands Policy Coordinating Office (PLPCO) employees participated in the route evaluation process described in Section 2.1. Cooperating Agencies involved with this plan included Emery County, Sevier County, TLA, and PLPCO.

The BLM released the preliminary alternatives, the scoping report, the baseline monitoring report, and the preliminary route reports to the cooperating agencies on February 8, 2024. Cooperating agencies also received the preliminary EA a week in advance of the general public release; many of the cooperating agencies submitted formal comments during the public comment period.

Designations on roads that cross BLM office boundaries were coordinated with the adjacent offices.

### 4.3 LIST OF PREPARERS

The following BLM staff assisted with assembling this EA. Additional staff contributed to the route evaluation that supports the EA and TMP Implementation Guide.

Name	Title
Jaydon Mead	Project Manager, Price Field Office
Blake Baker	Outdoor Recreation Planner, Price Field Office

Sarah Baldwin	Wildlife Biologist, Price Field Office
Taylor Benson	Geologist, Price Field Office
Jason Carlile	Rangeland Management Specialist, Price Field Office
Paul Caso	Rangeland Management Specialist, Richfield Field Office
Joe Chigbrow	Wildlife Biologist, Richfield Field Office
April Crawley	Planning & Environmental Specialist, Utah State Office
Mark Dean	Hydrologist, Richfield Field Office
Natalie Fewings	Archaeologist, Price Field Office
Sue Fivecoat	Assistant Field Manager, Henry Mountains Field Station
Ben Gaddis	Supervisory Planning & Environmental Coordinator, Utah State Office
Hunter Harridge	Outdoor Recreation Planner, Henry Mountains Field Station
Molly Hocanson	Planning & Environmental Coordinator, Green River District Office
Stephanie Howard	NEPA & GIS Branch Chief, Green River District Office
Dave Jacobsen	Outdoor Recreation Planner
Brandon Jolley	Natural Resource Specialist, Richfield Field Office
Jason Kaitchuck	Wildlife Biologist, Price Field Office
Daniel Kauffman	Planning and Environmental Coordinator, Green River District Office
Ray Kelsey	National Conservation Lands Program Lead, Utah State Office
Georgia Knauss	Physical Scientist (Paleontology), Utah State Office
Leah Knighton	Natural Resource Specialist, Richfield Field Office
Veronica Kratman	Realty Specialist, Price Field Office
Emily Lessner	Physical Scientist (Paleontology), Canyon Country District Office
Sam Marolt	Geologist, Richfield Field Office
Jason Anderson	GIS Specialist, Richfield Field Office
Holly Mitchell	Hydrologist, Green River District
David Mortensen	Field Manager, Richfield Field Office
Bridget Murray	Outdoor Recreation Planner, Price Field Office
Dustin Rooks	Botanist, Richfield Field Office
Kyle Smith	GIS Specialist, Green River District
Bill Stevens	Outdoor Recreation Planner, Moab Field Office
Johny Tallerico	Rangeland Management Specialist, Price Field Office
Dana Truman	Assistant Field Manager, Price Field Office
Michael Tweddell	Assistant Field Manager, Price Field Office
Michael Utley	Realty Specialist, Richfield Field Office
Baley Wilmoth	Planning & Environmental Specialist, Price Field Office

## APPENDIX A ISSUES ANALYZED IN BRIEF

The following issues are analyzed in brief because they do not relate to how the proposed action or alternatives respond to the purpose and need or they have no potential for significant impacts.

### A.1 AIB-1 (AIR QUALITY)

*How would the route network alternatives impact air quality in the TMA?*

The Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) for six criteria air pollutants (CAPs) considered harmful to public health and the environment: carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), sulfur dioxide (SO<sub>2</sub>), and lead (Pb). Oxides of nitrogen (NO<sub>x</sub>) and volatile organic compound (VOC) emissions also contribute to secondarily formed pollutants of O<sub>3</sub> and PM<sub>2.5</sub> through a complex series of atmospheric chemical interactions. A detailed description of these pollutants, along with their health effects and their sources can be found on pages 6 – 10 of the BLM Utah Air Monitoring Report (BLM 2023b). The EPA's criteria air pollutants website lists the NAAQS standards (EPA 2023a). Compliance with the NAAQS is typically demonstrated by monitoring for ground-level atmospheric air pollutant concentrations, creating a design value. The EPA's Air Quality Design Values webpage lists the Design Value Reports used for making NAAQS compliance determinations (EPA 2023b).

The analysis area is Emery and Sevier counties because the TMA overlaps those counties. The temporal scope of analysis is 20 years (see Section 3.1.1). The counties do not have reported design values and are designated as attainment/unclassified for all NAAQS pollutants. It is assumed that attainment/unclassified counties without reported design values have air pollutant concentrations below the NAAQS and good air quality since air monitoring is usually needed only when concentrations exceed 80% of the NAAQS (40 CFR § 58.14 (c)(1)) or when human populations in a core-based statistical area increase to the thresholds outline in 40 CFR 58.13. There are no regulatory monitors with design values within or near the TMA that could be used as a proxy for existing air quality in the TMA with regards to the primary pollutant of concern for this action (PM<sub>10</sub>). The nearest monitors are more than 70 miles away, in different airsheds, are separated by large topographic features, or are in urban environments.

The Air Quality Index (AQI) is an indicator of overall air quality as it accounts for all criteria air pollutants in a county and is one way to quickly evaluate how clean or polluted the air is. The EPA calculates a daily AQI based on local air monitoring data. The terms “good,” “moderate,” and “unhealthy” help to interpret the AQI. When the AQI value is in the good range, pollutant concentrations are well below the NAAQS and air pollution poses little or no risk. Moderate AQI values occur when pollution is below but near the NAAQS and voluntary emission reduction measures are encouraged. The AQI is considered unhealthy when the NAAQS are exceeded, and major pollution sources are often required to implement mandatory emission reduction measures. Counties without AQI data (such as Emery and Sevier counties) usually have fewer air pollutant sources and are assumed to have good air quality. A summary for other counties with reported AQI data in the PFO and RFO is reported in Table Appx - 1. The AQI for these counties is considered representative of air quality in Emery and Sevier counties because they neighbor to the north and south and show consistency in the number of days that reach the unhealthy category. Additionally, PM<sub>10</sub> would be the primary pollutant of concern for this action; O<sub>3</sub> and PM<sub>2.5</sub> were the pollutants responsible for moderate and unhealthy days reported in Table Appx - 1.

**Table Appx - 1: AQI Summary Statistics for the Years 2021-2023.**

County	# Days with AQI	# of Days When AQI was...			% of Days Rated...		
		Good	Moderate	Unhealthy	Good	Moderate	Unhealthy
Carbon	1092	915	165	2	83.8%	15.1%	0.2%
Garfield	776	640	134	0	82.5%	17.3%	0.0%
Wayne	359	343	16	0	95.5%	45%	0.0%

Source: EPA 2024a

Hazardous Air Pollutants (HAPs) are chemicals or compounds that are known or suspected to cause cancer or other serious health effects, such as compromises to immune and reproductive systems, birth defects, developmental disorders, or adverse environmental effects and may result from either chronic (long-term) and/or acute (short-term) exposure. The EPA's 2019 AirToxScreen assessment (EPA 2023c) reports the total cancer risk in Emery and Sevier Counties as 10.29 and 11.20 in one million, respectively, which is within the acceptable range published by the EPA of 1 to 100 in one million (EPA 2024d). The hazard indices for Emery and Sevier Counties range from 0 to 0.10 and 0 to 0.13, respectively. A hazard index value less than one is not likely to be associated with adverse health effects (EPA 2024d).

On-route travel has the potential to create emissions of CAPs from maintenance of routes, vehicle exhaust, and wind erosion. Since many of the routes are unpaved the primary pollutant would be particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>). Vehicle exhaust would also produce emissions of HAPs, NO<sub>x</sub>, SO<sub>2</sub> and CO. Emissions from both maintenance and vehicle travel would be dispersed over the entire TMA, which is approximately 1.1 million acres.

TMP implementation activities (Appendix H) that could result in impacts to air quality include emissions from maintenance activities, but they would not be anticipated to change with any alternative as designation of routes would not affect the frequency of maintenance (see Appendix H Table Appx - 35 regarding maintenance frequency). Rather, route designation could add or remove routes that would be subject to maintenance by the BLM. The BLM currently organizes approximately 20 workdays annually to perform route maintenance in the TMA which would be anticipated to remain the same between the alternatives. Routes that are currently maintained by Emery and Sevier counties would continue to be maintained and would not change as the number of county-maintained roads in the TMA is the same among each alternative. TMP implementation activities (Appendix H) that could minimize effects to emissions include limiting idling and properly maintaining equipment. These effects would be short-term in duration but would occur over the length of the TMP. Further, authorized route maintenance for range developments and mining and utility access would be anticipated to remain the same as current levels between the alternatives.

An overall increase in visitors in the area is expected as that has been the trend in recent decades (United States Census Bureau 2023). Emissions of air pollutants are linearly related to vehicle usage which is a function of the number of visitors and vehicle miles traveled. However, changes to the number of visitors in the TMA is unrelated to the action being considered by the BLM, because all alternatives deal with designating existing routes for OHV use. Also, as documented in Sections 3.1.1 and 3.3.4.1 and Table 3-13, PFO expects no meaningful change in recreation visitation from the various alternatives due to access being preserved under all alternatives to the three RMZs and the five main destinations that receive the majority of the visitation. In addition, none of the alternatives would authorize the construction of routes, authorize use of a route that has not already been subject to ongoing use even if such use was unauthorized, add or remove access to major area destinations, authorize events, create or remove an attraction that would draw new visitors, or authorize an action (such as construction) that would involve worker access. Therefore, changes to designation of existing routes (OHV-Open, OHV-Limited, OHV-Closed) is unlikely to change the amount of vehicle miles traveled as visitors are anticipated to continue to use routes that are open. Route closure could displace vehicle miles traveled by influencing where

recreationists decide to recreate (inside or outside of the TMA). However, there are no data available to support that the proposed route designations would substantially change visitation or usage distribution within the TMA. With the number of visitors and vehicle miles traveled anticipated to remain the same between alternatives, emissions would also remain the same.

The National Emissions Inventory (NEI) (EPA 2020) is a comprehensive and detailed estimate of air emissions containing criteria pollutants and criteria precursors. The NEI is released every three years based primarily upon data provided by State, local, and Tribal air agencies for sources in their jurisdictions and supplemented by data developed by the EPA. The most recent reporting year for the NEI is 2020. Emissions inventories relevant to the analysis area are listed in Table Appx - 2.

**Table Appx - 2: County-Level NEI CAPs Emissions in Tons per Year for the 2020 Reporting Year**

Scale	PM <sub>10</sub>	PM <sub>2.5</sub>	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	HAPs
Emery County Mobile Sources <sup>1</sup>	2,608.35	300.18	213.73	815.38	2,915.59	1.48	63.26
<b>Emery County Total<sup>2</sup></b>	<b>4,343.05</b>	<b>1,146.79</b>	<b>8,859.87</b>	<b>15,122.69</b>	<b>11,726.91</b>	<b>4,586.02</b>	<b>1906.85</b>
Sevier County Mobile Sources <sup>1</sup>	1,942.89	235.61	288.52	778.88	3,462.20	1.37	85.67
<b>Sevier County Total<sup>2</sup></b>	<b>5,426.28</b>	<b>1,429.63</b>	<b>10,587.91</b>	<b>1,261.55</b>	<b>14,015.78</b>	<b>85.12</b>	<b>1657.31</b>

Source: EPA 2020

<sup>1</sup>PM<sub>10</sub> and PM<sub>2.5</sub> emissions from mobile sources include those from unpaved roads.

<sup>2</sup>Total county emissions include both natural and anthropogenic emissions from all sources reported in the 2020 NEI

Dust plumes created by vehicles traveling on unpaved routes may be visible at distances from the routes, thereby affecting views from adjacent public lands. Airborne dust will eventually be deposited on vegetation and other objects, but this usually happens within a short distance from routes. As described above, the dust emissions are already occurring and the TMP will not change the affected environment for visibility or deposition. Current visibility conditions and trends throughout the state of Utah, including Class I areas near the analysis area, are incorporated by reference, summarized below, and included on pages 32-35 and 53-56 of the BLM Utah Air Monitoring Report (BLM 2023b). Briefly, visibility at Canyonlands National Park and Capitol Reef National Park have been improving over the period of record. Additionally, modeled visibility trends at Canyonlands National Park, Arches National Park, and Capitol Reef National Park are on track to meet long-term visibility goals as defined by the uniform rate of progress glidepath. The uniform rate of progress glidepath is obtained as a straight-line trend in visibility (in deciview<sup>54</sup>) from the most impaired days from the 2000-2004 Baseline to 2064 natural conditions (BLM 2023b).

Based on the existing air quality conditions in the area and the anticipated level of impact as described a detailed emissions inventory for each alternative and a detailed analysis are not needed. Analyzing emissions further would not help make a reasoned choice between alternatives (BLM Handbook H1790-1 section 6.4.1) and would not concentrate on the issues that are truly significant to the action in question (40 CFR § 1500.1(b)) since there would be no emission differences between the alternatives.

## **A.2 AIB-2 (GREENHOUSE GAS AND CLIMATE CHANGE)**

*How would greenhouse gas emissions from the route network alternatives contribute to climate change?*

Global cumulative greenhouse gas (GHG) emissions contribute to climate change. On-route travel and maintenance have the potential to result in emissions of GHGs from vehicle exhaust. Emissions from maintenance activities would not be anticipated to change with any alternative as designation of routes would not affect the frequency of maintenance. Rather, route designation could add or remove routes that

<sup>54</sup> Deciview: A unit of measurement to quantify human perception of visibility (BLM 2023b).

would be subject to maintenance by the BLM. The BLM currently organizes approximately 20 workdays annually to perform route maintenance in the TMA which would be anticipated to remain the same between the alternatives. Routes that are currently maintained by Emery and Sevier counties would continue to be maintained and would not change as the number of county-maintained roads in the TMA is the same among each alternative. Further, authorized route maintenance for range developments and mining and utility access would remain the same between the alternatives.

An overall increase in visitors in the area is expected as that has been the trend in recent decades (United States Census Bureau 2023). Emissions of GHGs are linearly related to vehicle usage which is a function of the number of visitors and vehicle miles traveled. However, changes to the number of visitors in the recreation area is unrelated to the action being considered by the BLM, because all alternatives deal with designating existing routes for OHV use. Also, as documented in Sections 3.1.1 and 3.3.4.1 and Table 3-13, PFO expects no meaningful change in recreation visitation from the various alternatives due to access being preserved under all alternatives to the three RMZs and the five main destinations that receive the majority of the visitation. In addition, none of the alternatives would authorize the construction of routes, authorize use of a route that has not already been subject to ongoing use even if such use was unauthorized, add or remove access to major area destinations, authorize events, create or remove an attraction that would draw new visitors, or authorize an action (such as construction) that would involve worker access. Therefore, changes to designation of existing routes (OHV-Open, OHV-Limited or OHV-Closed) are unlikely to change the amount of vehicle miles traveled as visitors are anticipated to continue to use routes that are open. Route designation could displace vehicle miles traveled by influencing where recreationists decide to recreate (inside or outside the TMA). However, there are no data available to support that the proposed route designations would substantially change visitation or usage distribution within the TMA. Since the number of visitors and vehicle miles traveled would be anticipated to remain the same between alternatives, emissions would also remain the same.

TMP implementation activities (Appendix H) that could result in greenhouse gas emissions include maintenance activities, but they would not be anticipated to change with any alternative as designation of routes would not affect the frequency of maintenance (see Appendix H Table Appx - 35 regarding maintenance frequency). Rather, route designation could add or remove routes that would be subject to maintenance by the BLM. The BLM currently organizes approximately 20 workdays annually to perform route maintenance in the TMA which would be anticipated to remain the same between the alternatives. Routes that are currently maintained by Emery and Sevier counties would continue to be maintained and would not change as the number of county-maintained roads in the TMA is the same among each alternative. TMP implementation activities that could minimize greenhouse gas emissions include limiting idling and properly maintaining equipment. These effects would be short-term in duration but would occur over the length of the TMP. Further, authorized route maintenance for range developments and mining and utility access would be anticipated to remain the same as current levels between the alternatives.

County and State level GHG emissions from the 2020 NEI are reported in Table Appx - 3. Emissions from wildfires are not included in the county totals displayed in Table Appx - 3 as they can change substantially from year to year. More information regarding county, national, and global scale emissions can be found on pages 23 – 28 of the BLM Utah Air Monitoring Report (BLM 2023b).

**Table Appx - 3: County-Level NEI GHG Emissions in Metric Tons (t) for the 2020 Reporting Year**

Scale	CO <sub>2</sub> (t)	CH <sub>4</sub> (t)	N <sub>2</sub> O (t)	100-yr CO <sub>2e</sub> (t)	20 -yr CO <sub>2e</sub> (t)
Emery County Mobile Sources	256,931.23	14.81	2.42	258,033.68	258,400.33
<b>Emery County Total</b>	12,617,698.55	1,476.55	214.72	12,720,318.81	12,739,761.78
Sevier County Mobile Sources	250,288.21	19.69	3.09	251,719.38	252,159.96
<b>Sevier County Total</b>	328,822.38	411.47	3.09	341,928.77	363,016.48
State of Utah	256,931.23	14.81	2.42	258,033.68	258,400.33

Source: EPA 2020

Based on existing GHG emissions in the area and the anticipated level of impact as described, a detailed emissions inventory for each alternative and a detailed analysis are not needed. Analyzing GHG emissions further would not help make a reasoned choice between alternatives (BLM Handbook H1790-1 Section 6.4.1) and would not concentrate on the issues that are truly significant to the action in question (40 CFR § 1500.1(b) since there would be no emission differences between the alternatives.

### A.3 AIB-3 (ACECS)

*How would the route network alternatives impact the relevant and important values of ACECs outside of wilderness areas?*

The analysis area for ACECs is those within the TMA. The TMA contains all or portions of eight ACECs identified in the 2008 Price RMP: portions of Uranium Mining Districts ACEC, Heritage Sites ACEC, Rock Art Sites ACEC, Interstate 70 ACEC, Muddy Creek ACEC, San Rafael Canyon ACEC, San Rafael Reef ACEC, and all of Cleveland-Lloyd Dinosaur Quarry ACEC (see Map 11). The temporal scope of analysis is 20 years (see Section 3.1.1).

While the Old Woman ACEC, within the RFO, falls adjacent to the TMA, the ACEC sits atop an isolated mesa and physical obstructions prevent any route from accessing the area. With this, no impacts are expected to this ACEC.

An ACEC designation is the principal BLM designation for public lands where special management is required to protect relevant and important values and prevent damage to those values (BLM 2024a). To be designated as an ACEC, lands must meet three criteria:

- **Relevance:** Contains historic, cultural, or scenic values; fish or wildlife resources; natural systems or processes; or natural hazards which impact life and safety (43 CFR 1610.7-2(d)(1)).
- **Importance:** Meets the relevance criteria and also has important qualities such as special worth and distinctiveness, has national or more than local importance, contributes to ecosystem resilience, or may cause significant threat to human health and safety (43 CFR 1610.7-2(d)(2)).
- **Special Management:** Meets both relevance and importance criteria and requires special management attention to protect the important and relevant values. Special management attention refers to management prescriptions developed to protect the important and relevant values of an area from the potential effects of actions permitted by the RMP.

During the route evaluations, the IDT considered the relevant and important values within each ACEC which include scenic quality, cultural and historic values, unique vegetation, and paleontological resources. They also considered if the route was within or within proximate location of a special designation, which included ACECs, and if there was special management within the ACEC that would conflict with a route designation.

Uranium Mining Districts ACEC was designated for its historic values and contains several significant mining sites associated with development of uranium as part of U.S. cold war efforts. These sites include

Tidwell Draw, Hidden Splendor, and Lucky Strike. Nothing within the special management specifically includes limiting OHV use within the ACEC. It is closed to firewood collection and livestock use, open for oil and gas leasing with no surface occupancy, open to mineral entry with notice or plan of operations, restricts disturbance of historic structures until oral history has been recorded, and open to disposal of mineral materials.

Heritage Sites ACEC was designated for its historic values and contains several sites that demonstrate early historic uses on public lands. These sites include Smith Cabin, Copper Globe, and Temple Mountain. Nothing within the special management specifically includes limiting OHV use within the ACEC. It is closed to firewood collection, open for oil and gas leasing with no surface occupancy, recommended for withdrawal mineral entry, excluded for right-of-way grants and lands and range improvements except for watershed control structure that protect historic values, is in VRM Class II which limits change, and closed to disposal of mineral materials.

Rock Art Sites ACEC was designated for its cultural values and contains some of the best examples of prehistoric rock imagery in the Colorado Plateau. These sites include the previously designated Pictographs sites, and also King's Crown, Short Creek/Canyon, Dry Wash, North Salt Wash, Molen Seep, Big Hole, Wild Horse Canyon, and Grassy Trail. The special management specifically includes prescriptions for OHV use including not allowing route designations until inventories and test excavations are performed and limiting OHV use to designated routes. Other prescriptions within the ACEC include allowing oil and gas leasing but not surface occupancy, closing to disposal of mineral materials, recommending for withdrawal from locatable mineral entry, exclusion for ROW grants, exclusion from range improvements and land treatments except for watershed control structures where these will protect cultural resource values, closure of immediate areas around panels closed to livestock use, and exclusion from private and commercial use of woodland products except for limited onsite collection of downed dead wood for campfires.

Interstate 70 ACEC was designated for its scenic values. It is rated scenic quality "A" in the BLM's VRM inventory system passing through the San Rafael Swell and bounded on the east by the San Rafael Reef. The special management specifically includes a prescription for OHV use by limiting this use to designated routes. Other prescriptions within the ACEC include allowing oil and gas leasing but not surface occupancy, closing to disposal of mineral materials, allowing mineral entry with notice or plan of operations, avoidance for ROW grants, exclusion from land treatments, exclusion from private and commercial use of woodland products except for limited onsite collection of downed dead wood for campfires, VRM Class I which strictly limits change closure of immediate areas around panels closed to livestock use, allowing range improvements, and subject to fire suppression activities.

Muddy Creek ACEC was designated for its cultural, historic, and scenic values. The landscape is panoramic with few visual boundaries, such as Hondu Arch and Tomsich Butte. The special management specifically includes a prescription for OHV use by limiting this use to designated routes. Other prescriptions within the ACEC include allowing oil and gas leasing but not surface occupancy, closing to disposal of mineral materials, allowing mineral entry with notice or plan of operations, avoidance for ROW grants, exclusion from land treatments, exclusion from private and commercial use of woodland products, VRM Class I which strictly limits change, restricting firewood collection, allowing range improvements, and subject to fire suppression activities.

San Rafael Canyon ACEC was designated for its scenic values. The ACEC includes the San Rafael River which has cut a channel creating what is known as the "Little Grand Canyon" as viewed from the Wedge, and the Black Boxes which are world renowned. The special management specifically includes a prescription for OHV use by limiting this use to designated routes. Other prescriptions within the ACEC include allowing oil and gas leasing but not surface occupancy, closing to disposal of mineral materials, allowing mineral entry with notice or plan of operations, avoidance for ROW grants, exclusion from land treatments and range improvements unless used to protect or improve riparian values, exclusion from

private and commercial use of woodland products, VRM Class II which limits change, closed to livestock grazing within Buckhorn Draw, and subject to fire suppression activities.

San Rafael Reef ACEC was designated for its unique vegetation and scenic values. Relict vegetation communities are found throughout the steeply dipping cuestas on the back side of the reef. There are few views within the reef that do not involve a panoramic scene into a deeply cut canyon or an enclosed view dominated by a vertical red sandstone wall or tremendous fin. The special management specifically includes a prescription for OHV use by limiting this use to designated routes. Other prescriptions within the ACEC include making it unavailable to oil and gas leasing, closing to disposal of mineral materials, recommending withdrawal from locatable mineral entry, exclusion for ROW grants, exclusion from land treatments and range improvements except for water control structures to protect scenic values, VRM Class I which strictly limits change, and subject to fire suppression activities.

Cleveland-Lloyd Dinosaur Quarry ACEC was designated for its paleontological values. The Cleveland-Lloyd deposit is unique, and the bone deposit is the densest concentration of Jurassic dinosaur bones in the world. This area also contains the world's largest collection of fossils of a large meat-eating dinosaur (*Allosaurus fragilis*) yet found. The special management specifically includes a prescription for OHV use by limiting this use to designated routes. Other prescriptions within the ACEC include collection of fossils will be allowed to those with a valid BLM-issued paleontological use permit, closing to all public access without authorization, only allowing mountain bikes on designated routes, not allowing camping, allowing construction of facilities to be allowed for research, visitor safety, convenience, resource interpretation, and comfort, closing to disposal of mineral materials, recommending withdrawal from mineral entry, not allowing collection of non-renewable resources such as fossils, rocks, mineral specimens, common invertebrate fossils, semiprecious gemstones, petrified wood, and mineral materials, limiting hiking to developed interpretive trails; allowing hiking off trails only by guided tours offered by BLM staff, making the National Natural Landmark (NNL) Boundary within the ACEC unavailable to oil and gas leasing within the NNL boundary, and outside of the NNL boundary within the ACEC allowing oil and gas leasing but no surface occupancy.

These individual ACECs were considered in route evaluations (see Section 2.1.2) along with their relevant and important values. The miles of routes within ACECs within each alternative are included in Table Appx - 5.

**Table Appx - 4: Evaluated Routes in Each ACEC**

ACEC	Routes
Cleveland-Lloyd Dinosaur Quarry ACEC	SS1001, SS1049, SS1051, SS1053, SS1054, SS1055, SS1224, SS1225
Heritage Sites ACEC	SS2288, SS2581, SS2582, SS2583, SS2584, SS2585, SS2586, SS2587, SS2588, SS2589, SS2590, SS2591, SS2592, SS2594, SS2595, SS2596, SS2597, SS2598, SS2599, SS2601, SS2602, SS2603, SS2605, SS2606, SS2607, SS2608, SS2609, SS2610, SS2611, SS2612, SS2613, SS2614, SS2615, SS2616, SS2617, SS2618, SS2620, SS2621, SS2622, SS2623, SS2625, SS2626, SS2631, SS2633, SS2634, SS2635, SS2637, SS2648, SS2652, SS2653, SS2656, SS2657, SS2658, SS2659, SS2660, SS2661, SS2662, SS2663, SS2664, SS2667, SS2668, SS2669, SS2670, SS2672, SS2675, SS2677, SS2678, SS2679, SS2680, SS2681, SS2682, SS2683, SS2684, SS2686, SS2689, SS2690, SS2691, SS2694, SS2695, SS2697, SS2698, SS2699, SS4554, SS4557, SS4558, SS4559, SS4560, SS4562, SS4563, SS4564, SS4567

ACEC	Routes
Interstate 70 ACEC	SS2001, SS2144, SS2161, SS2162, SS2168, SS2170, SS2380, SS2381, SS2382, SS2384, SS2385, SS2386, SS2387, SS2388, SS2389, SS2390, SS2391, SS2392, SS2393, SS2394, SS2406, SS2410, SS2411, SS2412, SS2714, SS2782, SS2783, SS2784, SS2786, SS2787, SS2792, SS2803, SS2806, SS2807, SS2810, SS2817, SS2819, SS3008, SS3009, SS3010, SS3015, SS3016, SS3017, SS3019, SS3020, SS3021, SS3022, SS3023, SS3025, SS3026, SS3029, SS3040, SS3048, SS3050, SS3052, SS3090, SS3271, SS3272, SS3273, SS3274, SS3275, SS3276, SS3277, SS3278, SS3279, SS3280, SS3281, SS3283, SS3284, SS3292, SS3293, SS3294, SS3295, SS3297, SS3298, SS3299, SS3302, SS3303, SS3304, SS3305, SS3306, SS3307, SS3308, SS3314, SS3316, SS3317, SS3318, SS4001, SS4026, SS4027, SS4033, SS4034, SS4035, SS4036, SS4037, SS4038, SS4039, SS4040, SS4042, SS4043, SS4045, SS4046, SS4047, SS4048, SS4049, SS4050, SS4051, SS4052, SS4053, SS4054, SS4056, SS4059, SS4080, SS4499, SS4515, SS4516, SS4516A, SS4517, SS4518, SS4519, SS4520, SS4527, SS4532, SS5012, SS5013, SS5015, SS5016, SS5017, SS5019, SS5024, SS5025, SS5079, SS5080, SS5187, SS5196, SS5204, SS5205, SS5385, SS5387, SS5388
Muddy Creek ACEC	SS4175, SS4191, SS4192, SS4193, SS4194, SS4195, SS4196, SS4197, SS4198, SS4199, SS4200, SS4202, SS4203, SS4204, SS4205, SS4206, SS4206A, SS4207, SS4208, SS4209, SS4210, SS4211, SS4212, SS4213, SS4214, SS4215, SS4219, SS4220, SS4221, SS4222, SS4223, SS4224, SS4226, SS4252, SS4263, SS5001, SS5038, SS5051, SS5052
Rock Art Sites ACEC	SS1147, SS1159, SS2233, SS2234, SS2235, SS2236, SS2239, SS2241, SS2259, SS2260, SS2261, SS2263, SS2264, SS3315, SS3346, SS3350, SS3354, SS3355, SS3356, SS3370, SS3381, SS3382, SS3383, SS3384, SS3388, SS3404, SS3413, SS3416, SS3426, SS3434, SS3440, SS3447, SS3448, SS3449, SS3453, SS3474, SS3482, SS3484, SS3485, SS3488, SS3492, SS3499, SS3503, SS3505, SS3507, SS4281, SS4282, SS4283, SS4284, SS4287, SS4288, SS4289, SS4291, SS5211, SS5241, SS5243, SS5244, SS5298, SS5299, SS5300
San Rafael Canyon ACEC	SS2004, SS2005, SS2006, SS2007, SS2010, SS2013, SS2017, SS2018, SS2019, SS2020, SS2021, SS2022, SS2023, SS2024, SS2026, SS2027, SS2029, SS2033, SS2034, SS2035, SS2036, SS2037, SS2038, SS2039, SS2044, SS2045, SS2046, SS2047, SS2053, SS2055, SS2056, SS2059, SS2060, SS2061, SS2064, SS2065, SS2066, SS2067, SS2068, SS2069, SS2070, SS2071, SS2072, SS2073, SS2074, SS2075, SS2076, SS2078, SS2079, SS2080, SS2081, SS2082, SS2083, SS2086, SS2088, SS2117, SS2825, SS3003, SS3004, SS3005, SS3006, SS3024, SS3084, SS3085, SS3086, SS3087, SS3088, SS3089, SS3091, SS3092, SS3094, SS3097, SS3103, SS3105, SS3106, SS3111, SS3112, SS3113, SS3114, SS3115, SS3116, SS3123, SS3145, SS3153, SS3154, SS3157, SS3158, SS3161, SS3167, SS3169, SS3170, SS3171, SS3173, SS3174, SS3175, SS3176, SS3177, SS3178, SS3179, SS3181, SS3182, SS3183, SS3184, SS3185, SS3186, SS3187, SS3188, SS3189, SS3190, SS3224, SS3225, SS3228, SS3229, SS3532
San Rafael Reef ACEC	SS2425, SS2426, SS2431, SS2492, SS2533, SS2534, SS2537, SS2553, SS2559, SS2565, SS2566, SS2567, SS2568, SS2569, SS2570, SS2571, SS2572, SS2573, SS2574, SS2576, SS2577, SS2578, SS2579, SS2624, SS2627, SS2666, SS2671, SS2723, SS2746, SS2791, SS2824, SS4264, SS4266, SS4295, SS4295A, SS4298, SS4299, SS4300, SS4301, SS4302, SS4303, SS4304, SS4305, SS4306, SS4307, SS4318, SS4323, SS4324, SS4325, SS4327, SS4330, SS4336, SS4337, SS4423

ACEC	Routes
Uranium Mining Districts ACEC	SS2293, SS2296, SS2297, SS2298, SS2299, SS2300, SS2301, SS2302, SS2303, SS2304, SS2305, SS2307, SS2308, SS2309, SS2310, SS2311, SS2312, SS2313, SS2314, SS2316, SS2317, SS2318, SS2319, SS2320, SS2321, SS2322, SS2323, SS2324, SS2330, SS2331, SS2332, SS2334, SS2346, SS2357, SS4061, SS4162, SS4163, SS4164, SS4165, SS4166, SS4167, SS4168, SS4169, SS4170, SS4171, SS4172, SS4173, SS4253, SS4254, SS4256, SS4257, SS4258, SS4259, SS4260, SS4262, SS4574, SS4575, SS4580, SS4581, SS4583, SS4584

**Table Appx - 5: Miles of Evaluated Routes in ACECs**

	Designation	Alt. A	Alt. B		Alt. C		Alt. D		Alt. E	
		Miles	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)
Cleveland-Lloyd Dinosaur Quarry ACEC	OHV-Open	1.7	1.8	+0.1	1.8	+0.1	3.3	+1.5	1.8	+0.1
	OHV-Limited	1.1	1.1	-	1.1	-	-	-1.1	1.1	-
	OHV-Closed	0.4	0.3	-0.1	0.3	-0.1	-	-0.4	0.3	-0.1
Heritage Sites ACEC	OHV-Open	8.1	6.8	-1.3	11.7	+3.6	20.1	+12.0	11.8	+3.7
	OHV-Limited	-	-	-	0.6	+0.6	-	-	0.6	+0.6
	OHV-Closed	12.0	13.4	+1.3	7.8	-4.2	-	-12.0	7.7	-4.3
Interstate 70 ACEC	OHV-Open	144.1	142.0	-2.0	152.3	+8.2	165.6	+21.6	150.0	+6.0
	OHV-Limited	-	-	-	1.5	+1.5	4.6	+4.6	1.5	+1.5
	OHV-Closed	27.6	29.6	+2.0	17.9	-9.7	1.4	-26.2	20.1	-7.5
Muddy Creek ACEC	OHV-Open	19.0	20.0	+1.0	25.8	+6.8	31.3	+12.3	22.2	+3.2
	OHV-Limited	-	0.8	+0.8	0.8	+0.8	0.6	+0.6	0.8	+0.8
	OHV-Closed	13.4	11.7	-1.7	5.8	-7.6	0.5	-12.9	9.4	-4.0
Rock Art Sites ACEC	OHV-Open	9.3	7.6	-1.7	10.6	+1.3	16.8	+7.5	9.9	+0.6
	OHV-Limited	-	-	-	2.1	+2.1	0.8	+0.8	0.8	+0.8
	OHV-Closed	9.6	11.3	+1.7	6.2	-3.4	1.3	-8.3	8.3	-1.3
San Rafael Canyon ACEC	OHV-Open	28.9	25.8	-3.1	32.5	+3.6	41.7	+12.8	30.3	+1.4
	OHV-Limited	11.0	11.0	-	15.5	+4.5	16.0	+5.0	14.6	+3.6
	OHV-Closed	18.4	21.5	+3.1	10.2	-8.2	0.6	-17.7	13.4	-5.0

	Designation	Alt. A	Alt. B		Alt. C		Alt. D		Alt. E	
		Miles	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)
San Rafael Reef ACEC	OHV-Open	12.9	12.9	-0.0	22.3	+9.4	28.9	+16.0	15.3	+2.4
	OHV-Limited	1.4	1.4	-	1.4	-	1.5	+0.1	1.4	-
	OHV-Closed	17.8	17.8	+0.0	8.4	-9.4	1.7	-16.1	15.4	-2.4
Uranium Mining Districts ACEC	OHV-Open	10.7	8.5	-2.3	10.6	-0.1	11.5	+0.7	9.0	-1.7
	OHV-Limited	-	2.6	+2.6	3.0	+3.0	5.3	+5.3	2.6	+2.6
	OHV-Closed	6.7	6.4	-0.3	3.8	-2.9	0.6	-6.1	5.9	-0.8

An ACEC is designated only if they meet the criteria which includes relevance, importance, and the need for special management. See the Price RMP decisions ACEC-4 through -8 and ACEC-11 through -13 for the special management which is in effect under all alternatives. However, to further disclose potential impacts from route designations, Table Appx - 6 discloses the miles of routes by relevant and important value.

**Table Appx - 6: Miles of OHV-Open or -Limited Routes in ACECs by Relevant and Important Values**

Miles of OHV-Open or -Limited Routes in ACECs by Relevant and Important Value <sup>1</sup>	Alt A (Miles)	Alt B (Miles)	Alt C (Miles)	Alt D (Miles)	Alt E (Miles)
ACECs with Paleontological Values	2.8	2.9	2.9	3.3	2.9
ACECs with Cultural or Historic Values	39.0	33.4	51.7	70.6	46.1
ACECs with Scenic Values	201.5	194.6	230.1	259	213.8
ACECs with Relict Vegetation Values	6.8	7.2	11.8	15.2	8.4
1 The ACECs with multiple relevant and important values have their routes accounted for in each relevant row. For example, Muddy Creek has cultural, historic, and scenic values, so its routes are added into both the cultural and historic line of this table and the scenic line of this table.					

Long-term use, monitoring, and maintenance of the OHV network within the TMA could impact these values. Specifically, OHV use, including incidental use such as passing, parking, and staging, and associated maintenance (see Section H.4 in Appendix H) may result in exposure, crushing or other damage to resources on or near the routes. Since these actions could increase rates of erosion (see Section 3.3.5), erosion may also expose buried resource values (such as cultural or historical sites) or cause degradation of already exposed resources more quickly than would be typical without these actions. OHV access to areas with known values, or high occurrence potential for these values, increases opportunities to view the resources in the field. Yet, it also increases the potential for vandalism, damage, or removal of those resources. TMP implementation actions (Appendix H) that could affect the above values include route maintenance (e.g., surface and ditch blading.), reclamation (e.g., raking), and sign placement (e.g., digging post holes). These effects would occur in very short time frames (estimated to be one to four days' worth of work, though it may be longer for longer routes). TMP implementation activities that could minimize effects to those values include sign placement directing OHVs to routes that are less disruptive to those values, maintaining the routes to avoid erosion and OHV drive arounds in areas with

those values, enforcement of the route system, monitoring of the effects, and reclamation of routes as appropriate. These effects would occur over longer timeframes.

- Potential impacts specific to paleontological resources are analyzed in brief in Section A.8 of 0. The range of alternatives analyzed in the EA are different ways to balance protection to the paleontological relevant and important values while still providing for access to those values.
- Potential impacts specific to cultural and historic resources are analyzed in detail in Section 3.3.1, Cultural Resources. The range of alternatives analyzed in the EA are different ways to balance protection to the cultural and historic relevant and important values while still providing for access to those values.
- Potential impacts specific to scenic quality are analyzed in detail in Section 3.3.7, Visual Resources. As shown in the table, between 70% and 80% of each Alternative's OHV-Open routes in the ACECs are in I-70 and San Rafael Canyon, which have relevant and important values of scenic. Since the routes are existing, they are not anticipated to add disturbance to the scenic views. They also provide access to key scenic viewpoints.
- Relict vegetation communities within the San Rafael Reef ACEC overlap the wilderness portions of that ACEC where motorized and mechanized travel is excluded. Because of this overlap, no impacts to the relevant and important value of relict vegetation would occur.

#### **A.4 AIB-4 (SAN RAFAEL SWELL RECREATION AREA)**

*How would the route network alternatives impact the public purposes of the San Rafael Swell Recreation Area?*

The analysis area is the San Rafael Swell Recreation Area. The TMA contains all but 6,700 acres of the 216,995-acre San Rafael Swell Recreation Area (Recreation Area), designated in 2019 by the Dingell Act “to provide for the protection, conservation, and enhancement of the recreational, cultural, natural, scenic, wildlife, ecological, historical, and educational resources of the Recreation Area” (Dingell Act, sec. 1221(b)). The temporal scope of analysis is 20 years (see Section 3.1.1).

The Dingell Act calls for the administration of the Recreation Area in a manner which conserves, protects, and enhances those purposes and allows only other uses which are consistent with them. Grazing of livestock is allowed if established before the date of the Act subject to reasonable regulations needed to comply with the applicable law and the Recreation Area’s purposes. Finally, the Recreation Area will be managed in a way that educates the public about the Cold War and historic uranium mines subject to public health and safety protection measures.

Dingell Act, Sec. 1222(c) calls for the development of a comprehensive management plan (Management Plan) for the Recreation Area. It also states in Section 1222(d) that motorized vehicles, except those being used for authorized purposes, shall be permitted only on routes designated in the Management Plan for use by motorized vehicles. The Recreation Area Management Plan is forthcoming, and if the resulting plan requires any adjustment to route designations made in this TMP, BLM will do so, as appropriate, once the Management Plan is complete.

Section 1223 of the Dingell Act established the San Rafael Swell Recreation Area Advisory Council (RAAC) to advise the BLM with respect to the preparation and implementation of the Management Plan for the Recreation Area. The seven members of the RAAC are as follows:

- A member of Emery County Commission;
- A member to represent motorized recreational users;
- A member to represent non-motorized recreational users;
- A member to represent permittees holding grazing allotments within the Recreation Area or wilderness areas;

- A member to represent conservation organizations;
- A member that has expertise in the historical uses of the Recreation Area; and
- A member from the elected leadership of a Federally recognized Indian tribe that has significant cultural or historical connections to, and expertise in, the landscape, archeological sites, or cultural sites within the County.

The RAAC has held annual or biannual meetings since February of 2021. During those meetings the RAAC has been involved in making recommendations to BLM on not only the Recreation Area but also the routes included in this TMP that are within the Recreation Area.

On February 17, 2021, the RAAC recommended that BLM keep and maintain all currently used routes in the San Rafael Swell Recreation Area.

During the meetings held on February 16 and 17, 2022 the RAAC recommended that BLM consider keeping dispersed camping experiences and evaluate the Wedge trail/road for its recreational and search and rescue values before closure.

On March 7, 2024, the RAAC recommended that the BLM develop a well-balanced TMP that opens more miles of routes but closes routes with resource issues.

On August 14, 2024, the RAAC recommended that BLM leave route SS4154 open, choose Alternative C of the TMP for routes SS4564 and SS4562 with an amendment to the motion that, before the routes are opened, prescribed protective/educational measures must be put in place by the BLM, and that routes SS3158, SS3532, and SS3161 have a seasonal route closure for bighorn lambing from mid-April to early June.

During the route evaluations, the IDT considered the recommendations from the RAAC and all the purposes for which the Recreation Area was designated. They also considered if each route was within or within proximate location of a special management area (see Section 2.1.2), which included the Recreation Area. There are 616 miles of evaluated travel routes within the newly designated Recreation Area that provide access to the recreational, cultural, natural, scenic, wildlife, ecological, historical, and educational resources of the Recreation Area that the Dingell Act requires the BLM to conserve, protect, and enhance (sec. 1221(b)). Per Section 1221(d), motor vehicles are to be permitted only on designated routes and no new permanent or temporary motor vehicle routes are to be constructed. Existing roads may be maintained, repaired, and rerouted as needed to protect public safety, maintain accessibility, and protect resources. Only routes which physically exist on the ground (open or closed) were evaluated for this plan; since new route construction or reroutes are not proposed under any alternative, the adopted travel plan will conform with this section of the Dingell Act.

The miles of routes within the Recreation Area within each alternative are included in Table Appx - 7. During the route evaluation process that BLM considered the conservation, protection, and enhancement of the recreational, cultural, natural, scenic, wildlife, ecological, historical, and educational resources within the Recreation Area.

**Table Appx - 7: Miles of OHV-Open or -Limited Routes in the Recreation Area**

	Alt A (Miles)	Alt B (Miles)	Alt C (Miles)	Alt D (Miles)	Alt E (Miles)
Miles of OHV-Open or -Limited Routes in the Recreation Area	490	428	563	693	521

Because the Recreation Area was established to protect, conserve, and enhance multiple values the potential impacts to the Recreation Area are analyzed in the sections corresponding to those values. TMP implementation activities (Appendix H) that could affect the above values include route maintenance (e.g., surface and ditch blading.), reclamation (e.g., raking), and sign placement (e.g., digging post holes). These effects would occur in very short time frames (estimated to be one to four days' worth of work,

though it may be longer for longer routes). TMP implementation activities that could minimize effects to those values include sign placement directing OHVs to routes that are less disruptive to those values, maintaining the routes to avoid erosion and OHV drive arounds in areas with those values, enforcement of the route system, monitoring of the effects, and reclamation of routes as appropriate. These effects would occur over longer timeframes.

Protection, conservation, and enhancement of those values will also occur through the measures outlined in the Implementation Guide, Appendix H. The measures that protect, conserve, and enhance these values include:

- Population management for big game because it opens access to hunting grounds
- Education such as advising the public about the potential adverse effects to cultural resources
- Signing, by making the route network obvious to users, promoting the health and safety of visitors to public lands, meeting visitor needs for information and direction including information on how to minimize visitor impact while visiting an area while also providing access to important destinations such as viewsheds and historic mining sites, providing the best opportunity for recreation by providing different opportunities for recreation through limiting routes to types of vehicles which also limits the number of users of the routes and ensuring motorized access for different types of recreation such as hunting and fishing
- Maintenance, by ensuring sustainability, safety and navigability for designated routes so off-route travel or route deviations to avoid route issues becomes unnecessary, and by reducing erosion, emissions, and noise
- Enforcement, by providing appropriate responses to use issues (e.g., user 4, s, resource concerns, etc.)
- Monitoring, by ensuring that desired outcomes and conditions are achieved and documenting how the decision affects resources over time
- Reclamation, by discontinuing use of a route (such as routes not being used, routes that are redundant, routes that are in sensitive viewsheds) and allowing it to return to a natural state when necessary; this reduces habitat fragmentation, protects sensitive habitats

Potential impacts to cultural and historical resources are analyzed in detail in Section 3.3.1, though they are proportionally reduced in the Recreation Area to the smaller mileage and associated acreage of routes as shown in Table Appx - 7.

Potential impacts to natural and ecological resources are analyzed in brief (sensitive plant species, AIB-14) and in detail in Section 3.3.3 (native vegetation), Section 3.3.5 (soils), Section 3.3.6 (special status plants), Section 3.3.8 (water resources), and Section 3.3.9 (weeds), though they are proportionally reduced in the Recreation Area to the smaller mileage and associated acreage of routes as shown in Table Appx - 7.

Potential impacts to visual resources are analyzed in detail in Section 3.3.7., though they are proportionally reduced in the Recreation Area to the smaller mileage and associated acreage of routes as shown in Table Appx - 7.

Potential impacts to wildlife are analyzed in brief (sensitive wildlife species, big game and upland game, AIB-18 and AIB-19) and in detail in Section 3.3.10 (special status fish), and Section 3.3.11 (other special status species), though they are proportionally reduced in the Recreation Area to the smaller mileage and associated acreage of routes as shown in Table Appx - 7.

## A.5 AIB-5 (WILDERNESS)

*How would the route network alternatives impact wilderness character in designated wilderness areas within the TMA?*

The TMA contains the following Wilderness Areas:

- Big Wild Horse Mesa
- Cold Wash
- Devils Canyon
- Eagle Canyon
- Horse Valley
- Little Ocean Draw
- Little Wild Horse Canyon
- Lower Last Chance
- Mexican Mountain
- Middle Wild Horse Mesa
- Muddy Creek
- Reds Canyon,
- San Rafael Reef
- Sids Mountain

These Wilderness Area designations total roughly 427,000 acres (37% of the TMA), and they are the analysis area. The temporal scope of analysis is 20 years (see Section 3.1.1). Under the Dingell Act (Public Law 117-47 Section 1231(a)), Congress designated these areas for inclusion in the National Wilderness Preservation System and directed that the BLM manage them in accordance with the Wilderness Act of 1964. Motorized and mechanized travel is a prohibited use under Section 4(c) of the Wilderness Act; therefore, approximately 294 miles of inventoried (but never designated for OHV use) routes within wilderness areas were not evaluated or considered for designation because they are closed by Federal statute and cannot be designated under any route network alternative contemplated in the TMP process. In addition, BLM Manual 6340 specifies that any permanent roads within designated wilderness must be associated with a valid existing right, or explicitly identified in the legislation designating that particular wilderness. No routes were identified within these designated wilderness areas that meet the definition of a “permanent road” under BLM wilderness policy (BLM 2012c).

In most cases, Congress chose to draw the boundaries of the wilderness areas within the TMA immediately adjacent to existing routes. In some cases, the wilderness boundary has been drawn around an existing road, creating what are often referred to as “cherry-stem” routes. Per Dingell Act, sec. 1232(e)(2): “The fact that non-wilderness activities or uses can be seen or heard from areas within a wilderness area shall not preclude the conduct of those activities or uses outside the boundary of the wilderness area.” Congress also stated at § 1232(e)(1) that it “does not intend for the designation of the wilderness areas to create protective perimeters or buffer zones.” In conformance with this law, the BLM did not consider proximity to wilderness or impacts to wilderness values during route evaluations and the creation of network alternatives.

Continued OHV use on routes adjacent to wilderness areas within the TMA is likely to create localized and transient impacts to wilderness character for short distances depending on local topography. Temporary auditory and visual impacts to wilderness character can be expected from the passage of OHVs on designated routes. The sights and sounds of motor vehicles adjacent to wilderness may temporarily disturb visitors’ experience of outstanding opportunities for solitude or primitive recreation.

However, in most circumstances, visitors can venture further into the wilderness out of visual and auditory range of vehicle routes.

OHV use may also impact the undeveloped and natural qualities of wilderness character through user-created route widening or braiding (to avoid travel hazards) that may encroach beyond a wilderness boundary. OHV use near a wilderness boundary may also introduce noxious weeds, impacting the natural quality of wilderness. The passage of vehicles may also impact the natural quality by disturbing or causing injury to vegetation or wildlife. Unauthorized vehicle incursions or dispersed camping in wilderness may also occur from time to time creating new surface disturbances that impact the undeveloped and natural qualities. Other potential human impacts in wilderness can occur near travel routes from human waste, litter and trash dumping, hazardous fluid leaks, woodcutting, target shooting, vandalism, wildfires, etc., resulting in impacts to naturalness and supplemental values such as cultural sites, scenery, wildlife, geology, paleontology, or scientific values.

In remote arid desert regions like the TMA, OHV routes adjacent to wilderness areas also provide crucial access for realizing the public purposes of wilderness, including recreational, scenic, scientific, education, conservation, and historic uses. The travel network within the TMA provides important public access to wilderness trailheads, range improvements, and river put-ins or take-outs for supporting (e.g., transporting gear) backpacking, climbing, canyoneering, equestrian riding, river running or other non-motorized activities. The same can be said for authorized livestock grazing or scientific research within wilderness.

In accordance with the TMP implementation actions (Appendix H) and with partnership assistance, the BLM will continuously monitor OHV use adjacent to wilderness areas within the TMA and minimize impacts and user conflicts to wilderness character to the greatest extent practicable through signs, reclamation, maintenance, and enforcement. Reclamation of unauthorized OHV use or other unauthorized human-caused surface disturbances in wilderness includes minimum-tool practices such as trash removal, erosion control, mulching, revegetation, signing, and weed eradication. Management actions within wilderness require the preparation of minimum requirements analysis and possibly additional NEPA, as necessary.

Some routes within the TMA have alignment anomalies that appear to show a parallel or cherry-stem route encroaching into a wilderness boundary. These anomalies are the result of inaccuracies in legacy GIS data used to create the legislative wilderness maps. Per the authority granted under the Dingell Act (sec. 1231(b)), the BLM is currently working on a deliberative process of documenting necessary clerical adjustments to GIS data to correct identified wilderness boundary misalignments. The reader should disregard isolated locations where it may appear that a proposed vehicle route encroaches upon or passes within wilderness boundaries as currently depicted.

## **A.6 AIB-6 (ENVIRONMENTAL JUSTICE)**

*How would the route network alternatives impact environmental justice populations?*

The analysis area is Carbon and Emery counties because those are the counties most affected by recreation in the TMA. The temporal scope of analysis is 20 years (see Section 3.1.1). A review of reports generated by EPA's EJScreen tool (EPA 2024b) indicates that low-income populations in Carbon and Emery counties are 38%, compared to the 25% average for Utah and 30% average for the nation and which is the 68<sup>th</sup> percentile for the nation. These reports also indicate that the portion of the population with English language difficulties in Carbon and Emery counties are 1% compared to the 2% average for Utah and 5% for the nation which is the 58<sup>th</sup> percentile for the nation. Finally, it indicates that the portion of the population with disabilities<sup>55</sup> in Carbon and Emery counties is 16.4% compared to the 14.5%

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<sup>55</sup> The U.S. Census Bureau American Community Survey reports disabilities for five classes in addition to mobility disabilities. This number reflects all six classes.

average for Utah and 13.7% acreage for the nation, which is the 71<sup>st</sup> percentile for the nation. The report indicates that none of the population in Carbon and Emery counties are American Indian.

As documented in Sections 3.1.1 and 3.3.4.1 and Table 3-13, PFO expects no meaningful change in recreation visitation from the various alternatives due to access being preserved under all alternatives to the three RMZs and the five main destinations that receive the majority of the visitation. The alternatives are therefore not anticipated to impact the number of visitors and vehicle miles traveled within the TMA. Changes to the number of visitors to the recreation area are not directly or indirectly tied to the action being considered by the BLM, because all alternatives deal with designating OHV use on existing routes. In addition, none of the alternatives would authorize the construction of routes, authorize use of a route that has not already been subject to ongoing use even if such use was unauthorized, add or remove access to major area destinations, authorize events, create or remove an attraction that would draw new visitors, or authorize an action (such as construction) that would involve worker access. Because of the lack of meaningful change in recreation visitation across alternatives, changes to designation of existing routes (open, limited, or closed) is unlikely to disproportionately adversely affect poverty or minority populations. Additionally, there are no past, present or reasonably foreseeable future actions in the planning area, considered cumulatively with the travel plan alternatives, which would have a disproportionately adverse impact on identified environmental justice populations. For this reason, BLM is not carrying this resource forward for detailed analysis. TMP implementation activities (Appendix H) that could minimize user conflicts include sign placement clarifying the route network, maintaining the routes appropriate to the route class, enforcement of the route system, monitoring of the effects, and reclamation of routes as appropriate. These effects would occur over longer timeframes.

Finally, the BLM is directed by law and by regulation to provide accommodations wherever possible and to the best of our ability provide equitable access to individuals with disabilities, but that does not mean an all-encompassing approval. OHV-Closed designations may prevent disabled individuals from using an OHV to reach a particular location. However, the area in general would remain accessible to disabled persons. OHV-Open or -Limited designations may enhance the ability of disabled individuals to access the area. The proposed route network alternatives provide meaningful access throughout the TMA by proposing to designate numerous existing routes open to OHV use.

## **A.7 AIB-7 (LIVESTOCK GRAZING)**

*How would the route network alternatives impact livestock grazing operations within the TMA?*

The analysis area is the entire TMA and its 2,161 miles of evaluated routes overlap 61 livestock grazing allotments covering approximately 1,910,977 acres of BLM, TLA and private lands within and outside the TMA (see Map 15). The temporal scope of analysis is 20 years (see Section 3.1.1). A list of affected grazing allotments, acreage, and percent of allotment in the TMA are shown in Table Appx - 8. A total of 811 evaluated routes (38% of the network's routes) provides key access to corrals, fences, gates, mineral supplement locations, tanks/troughs, ponds, springs, wells, watering access, or water haul sites. These routes are utilized by grazing permittees and BLM range staff for compliance checks, monitoring, range improvement inspections, and range improvement project maintenance. Many other routes throughout the TMA are used by permittees to check livestock and by BLM range specialists to conduct compliance inspections. Traffic related to livestock grazing may include semi-trucks, vehicles, horseback, herding along roadways, etc. For overall details on livestock grazing in the TMA, see pages 3-66 to 3-72 of the 2008 Price Proposed RMP/EIS (BLM 2008d) and pages 3-91 to 3-93 of the 2008 Richfield Proposed RMP/EIS (BLM 2008f). For more details on the specific allotments in the TMA, see the reports available through the BLM's Rangeland Administration System (RAS) at <https://reports.blm.gov/reports/ras/>.

Specifically, OHV use, including incidental use such as passing, parking, and staging, and associated maintenance (see Appendix H) may result in conflicts between recreation users and livestock operators (e.g., vandalism to facilities, open gates, OHV collisions with livestock, disturbance, and displacement of

livestock from OHV and recreation use, etc.), particularly during seasons with more public OHV use (spring, summer, and fall). The majority of grazing allotments within the TMA are late fall, winter, and early spring use, which reduces the potential occurrence of conflict to a short period in the late fall and early spring. Heavy OHV traffic can directly interfere with cattle truck or water truck access to the allotments or livestock (blocking routes or access gates/corrals for instance). Other potential indirect effects include lost time and revenue associated with repairs or replacement of vandalized range improvements or facilities, displacement of livestock from opened gates and subsequent retrieval, livestock mortality, etc.

Closing or limiting OHV use on a particular route can minimize or eliminate conflicts between the permittee and OHV by removing or reducing the OHV traffic on the route. Closure of a route to OHV use would not close the route to authorized uses such as permittee access to a range facility where the grazing permit authorizes access. BLM authorizations for access to TLA lands for authorized range/livestock management purposes are not impacted by OHV designations resulting from this plan.

TMP implementation activities (Appendix H) that could affect livestock grazing include route maintenance (surface and ditch grading and drainage structure replacement, etc.), and sign installations (digging post holes). Sign installation would direct recreation users to their destinations and inform users of allowable uses for a particular route.

Under Alternative A, there would be no route designation changes in the TMA. Impacts from ongoing OHV use would reflect a continuation of current conditions, and overall incremental change to rangeland and grazing impacts within the analysis area is not anticipated.

Alternatives B-E do not propose any new construction of routes or other surface disturbing activities. Each action alternative would impact rangeland and grazing operations to differing degrees based on the miles of route designated as closed or limited versus open for public OHV use. Opportunity for conflicts among permittees and public OHV users would vary across Alternatives B-E; however, separation between peak seasons of use between the two user groups reduces impacts. Additionally, BLM proposes to manage the selected network through the TMP Implementation Guide (Appendix H), which would minimize impacts and user conflicts through clarifying the route network and providing structured management and operation through activities including signing, maintenance, enforcement, monitoring, and reclamation. These implementation actions would further reduce the overall impacts to rangeland and grazing operations.

This issue does not warrant further analysis because route designations would not impact permittees or BLM from accessing facilities or locations necessary for rangeland and grazing operations. Under the action alternatives, opportunity for conflicts among permittees and public OHV users would be minimized due to differences in the recreation and livestock grazing seasons of peak use and due to management under the TMP Implementation Guide (Appendix H). There are no past, present, or reasonably foreseeable future actions that would change this conclusion.

**Table Appx - 8: Grazing Allotments within TMA**

Allotment Number	Allotment Name	GIS Acres	% of Allotment in TMA
00023	Big Pond	42,389	100
35004	Black Dragon	54,891	100
34011	Box Flat	26,234	97
55005	Buckhorn	47,156	49
34013	Buckmaster	55,934	37
34016	Calf Canyon	7,561	79
00600	Cathedral	136,551	4

Allotment Number	Allotment Name	GIS Acres	% of Allotment in TMA
44022	Chimney Rock Flat	46,641	29
34025	Cleveland Summer	40,857	27
25009	Coal Wash	20,715	100
34029	Coon Spring	11,319	28
00602	Deer Peak	10,053	100
34037	Dripping Spring	19,659	100
25017	Dry Wash	9,550	100
35023	Fuller Bottom	13,253	97
35025	Globe Link	7,810	100
35026	Hambrick Bottoms	20,704	<1
35027	Head Of Sinbad	14,829	100
15099	Hondo	13,704	100
14136	Huff Bench	5,253	10
34055	Humbug	43,034	92
24056	Icelander	49,564	27
35031	Iron Wash	148,892	63
35033	Jeffery Well	84,914	18
24059	Johnson Huff Hollow	11,441	10
00605	Last Chance	21,376	100
35039	Little Holes	10,477	<5
35041	Lone Tree	121,014	99
24069	Lucky Lemon Flat	10,886	100
00607	M & O	25,575	57
35042	McCarty Canyon	6,069	100
35043	McKay Flat	52,915	100
35044	Mesquite Wash	2,503	100
35045	Mexican Bend	13,789	100
35046	Miller Canyon	3,351	96
35047	Molen Pasture	1,799	100
35048	Molen Tanks	5,350	100
24076	Mounds	23,077	71
00608	Mussentuchit	59,075	100
35051	North Ferron	8,191	100
35054	North Sid & Charley	11,929	100
35055	North Sids Mountain	3,502	100
35056	North Sinbad	42,631	100
25060	Oil Well Flat	42,890	100
35067	Red Canyon	41,318	100
00611	Rock Springs	103,655	97
25073	Saddle Horse Canyon	11,986	100
14134	Sage Flat	5,779	100
25074	Saleratus	25,378	17

Allotment Number	Allotment Name	GIS Acres	% of Allotment in TMA
15075	Salt Wash	45,055	66
25079	Sorensen	8,296	100
15082	So. Sid And Charley	23,820	100
15080	South Ferron	4,129	100
15083	South Sids Mountain	9,097	100
14110	Summerville	33,272	41
25087	Taylor Flat	43,073	100
05089	Temple Mountain	17,272	100
04114	Victor	9,697	34
00613	Wild Horse	94,774	54
00612	Willow Springs	8,034	100
15096	Wood Hollow	17,033	100
<b>Total</b>		<b>1,910,977</b>	

## A.8 AIB-8 (PALEONTOLOGICAL RESOURCES)

*How would the route network alternatives impact paleontological resources within the TMA?*

The analysis area is the TMA, because that is the smallest unit containing all the impacts anticipated from the TMP. The temporal scope of analysis is 20 years (see Section 3.1.1). Paleontological resources are defined by the Paleontological Resources Preservation Act of 2009 (PRPA) as the fossilized remains, traces, or imprints of organisms, preserved in or on the earth's crust, that are of paleontological interest and that provide information about the history of life on earth (16 United States Code [U.S.C.] 470aaa[1][c]). PRPA directs the BLM to 'preserve, manage, and protect paleontological resources' (43 CFR § 49.1(a) and 49.30(b)). Collection of vertebrate and other paleontological resources is limited to those holding BLM-issued permits (43 CFR § 49.100(a)), whereas recreational (casual) collection is allowed for common invertebrate and plant paleontological resources (43 CFR § 49.805(a)). Petrified wood, as defined at 30 U.S.C 611, is managed as a mineral resource (P.L. 87.713) and individuals may collect limited quantities of petrified wood (43 CFR Subpart 3620).

Based on a review of published geological maps, the TMA comprises over 50 unique geologic units that were deposited from approximately 360 million years ago during the Carboniferous to the recent, many with high potential for containing paleontological resources. Therefore, a full list of potentially affected geological units is not included in this analysis. Instead, the Potential Fossil Yield Classification (PFYC) system is used, a tool used to assess resource impacts and mitigation needs by providing estimates of the potential for paleontological resources within a geologic unit (BLM PIM 2022-009). The PFYC system is based on numeric classes of 1–5 and unknown (U). A geologic unit identified as PFYC 1 has very low likelihood of containing paleontological resources, whereas a geological unit identified as PFYC 5 is a geologic unit that has a very high likelihood to contain and predictably produces scientifically significant paleontological resources. A class U assignment indicates that there is not enough information available for a formal class assignment. Until additional information is available, and a provisional or formal assignment made, these units should be considered to have paleontological potential. Areas of moderate to very high and unknown PFYC class (3-5, U) should be assessed prior to authorizing land use action. The geologic units on BLM-administered (Federal) lands within the TMA range in PFYC from 1-5 with over three-quarters of the acreage classified as PFYC 3-5 or U and 50% of the acreage classified as PFYC 4-5 or U (See Table Appx - 9 and Map 16). Non-BLM-administered lands within the TMA follow a similar overall trend in percentage of the individual PFYC units but have fewer overall acres.

**Table Appx - 9: Acreage within the TMA by Potential Fossil Yield Classification Value and Land Ownership**

PFYC	Total Acres	Federal Acres (% of Federal Acres) <sup>1</sup>	State Acres (% of State Acres)	Private Acres (% of Private Acres)
1	2	2 (0%)	0 (0%)	0 (0%)
2	259,330	219,553 (19%)	37,085 (24%)	2,693 (27%)
3	402,481	353,398 (31%)	45,039 (29%)	4,044 (40%)
4	439,416	38,9194 (34%)	4,9134 (32%)	1,088 (11%)
5	142,707	127,335 (11%)	15,065 (10%)	306 (3%)
U	70,474	59,589 (5%)	9,015 (6%)	1,870 (19%)
<b>Totals</b>	1,314,409	1,149,071	155,338	10,001
1 – There are errors in the acreages in this table due to PFYC geospatial data errors such as overlapping classes. The numbers presented do not represent actual impacts, but are useful for comparing impacts across alternatives.				

Systematic paleontological resource surveys have not been conducted for most of the authorized TMA routes. According to previously recorded confidential paleontological locality data managed by the Utah Geological Survey the TMA contains approximately 560 recorded paleontological localities with typical fossils including invertebrates, turtles, dinosaurs, crocodilians, phytosaurs, dinosaur footprints and eggshell, and small mammals from at least 18 different geological units that span from the Carboniferous to possibly the Neogene (Table Appx - 10).

**Table Appx - 10: Approximate Numbers of Paleontological Localities Within the TMA by Geological Age**

Geological Age	Number of Localities
Neogene	1
Cretaceous	244
Jurassic	217
Triassic/Jurassic	1
Triassic	81
Permian/Triassic	9
Permian	6
Pennsylvanian	1
<b>Total</b>	<b>560</b>

Source: Utah Geological Survey confidential locality database. No systematic surveys were conducted for this assessment. The best data available were used and they illustrate the lowest number of paleontological localities possible within the TMA.

Long-term use, monitoring, and maintenance of the OHV network within the TMA could impact paleontological resources. Specifically, OHV use, including incidental use such as passing, parking, and staging, and associated maintenance (see Section H.4 in Appendix H) may result in crushing or other damage to exposed or shallowly buried paleontological resources on or near the routes. Since these actions could increase rates of erosion (see Section 3.3.5), the erosion may also expose buried paleontological resources or cause degradation of already exposed paleontological resources more quickly than would be typical without these actions. OHV access to areas with known paleontological resources or high potential to contain them increases opportunities to view paleontological resources in the field, as well as the authorized removal of paleontological resources by the public through casual collection and paleontologists through permitted survey and surface collection. Documentation of new paleontological localities and individual fossils benefits our understanding of past life and environments. Fossils collected and curated into a public, federally approved repository provides long term educational, research, and museum experiences for the public. Yet, it also increases the potential for vandalism and unauthorized removal of paleontological resources. TMP implementation activities that could result in exposure of or

damage to buried paleontological resources include route maintenance (e.g., surface and ditch blading.), reclamation (e.g., raking), and sign placement (e.g., digging post holes). These effects would occur in very short time frames (estimated to be one to four days' worth of work, though it may be longer for longer routes). TMP implementation activities (Appendix H) that could minimize effects to paleontological resources include sign placement directing OHVs to routes that are less disruptive to paleontological resources, maintaining the routes to avoid erosion and OHV drive arounds in areas with those values, enforcement of the route system, monitoring of the effects, and reclamation of routes as appropriate. These effects would occur over longer timeframes.

Impact causing actions and impact types are anticipated to be the same for all alternatives, yet the Alternatives vary in intensity of potential impact (Table Appx - 11). Miles of OHV-Open, OHV-Limited, and OHV-Closed routes by alternative that cross PFYC values are provided in Table Appx - 11. The approximate number of paleontological localities within 500 feet of a route by alternative are provided in Table Appx - 12. This distance was used in the analysis to summarize those localities with immediate proximity to the routes. Users may walk from the routes and access additional areas by foot, increasing the distance to 0.25 miles from the routes approximately doubles the number of localities that could be impacted. These impacts would not be direct impacts from OHV use or route maintenance. The more areas accessible by routes increases the potential for both authorized and unauthorized impacts to paleontological resources in these areas and the TMA. Under all alternatives if implementation is proposed that would include ground disturbance, additional site-specific NEPA may be required before the activity could occur. If paleontological resources are encountered during minimal ground disturbance associated with maintenance activities, the activity would stop, and the BLM would be notified. Following BLM practice, the public would continue to be informed about paleontological resource management which includes casual collection of reasonable amounts of common invertebrate and plants (non-vertebrates), leaving vertebrate and scientifically important non-vertebrate fossils in place and reporting possible paleontological resource discoveries to the BLM.

**Table Appx - 11: Miles Crossed by Routes on BLM-Administered Lands by Potential Fossil Yield Classification Value and Alternative**

Type by Alternative	PFYC 2	PFYC 3	PFYC 4	PFYC 5	PFYC U
Alternative (Alt) A OHV-Open	371	385	314	160	100
Alternative (Alt) A OHV-Closed	150	245	154	149	33
Alternative (Alt) A OHV-Limited	33	30	13	4	20
Alt B OHV-Open	316	312	265	139	86
Alt B to Alt A OHV-Open	-55	-73	-49	-21	-14
Alt B OHV-Closed	226	319	191	166	62
Alt B to Alt A OHV-Closed	+76	+74	+37	+17	+29
Alt B OHV-Limited	11	30	25	8	5
Alt B to Alt A OHV-Limited	-22	0	+12	+4	-15
Alt C OHV-Open	418	417	355	220	115
Alt C to Alt A OHV-Open	+47	+32	+41	+60	+15
Alt C OHV-Closed	99	158	84	81	33
Alt C to Alt A OHV-Closed	-51	-87	-70	-68	0
Alt C OHV-Limited	36	85	42	13	5
Alt C to Alt A OHV-Limited	+3	+55	+29	+9	-15
Alt D OHV-Open	506	538	436	300	140

Type by Alternative	PFYC 2	PFYC 3	PFYC 4	PFYC 5	PFYC U
Alt D to Alt A OHV-Open	+135	+153	+122	+140	+40
Alt D OHV-Closed	10	20	6	5	10
Alt D to Alt A OHV-Closed	-140	-225	-148	-144	-23
Alt D OHV-Limited	37	103	39	9	3
Alt D to Alt A OHV-Limited	+4	+73	+26	+5	-17
Alt E OHV-Open	367	377	313	176	110
Alt E to Alt A OHV-Open	-4	-8	-1	16	10
Alt E OHV-Closed	156	224	136	126	40
Alt E to Alt A OHV-Closed	6	-21	-18	-23	7
Alt E OHV-Limited	30	59	31	11	3
Alt E to Alt A OHV-Limited	-3	29	18	7	-17

Note: None of the routes cross geological units classified as PFYC 1 therefore that value was excluded from this table. Only 1.2 miles of the routes are non-BLM, these are split between State of Utah (0.9 miles) and Private (0.3 miles) and these miles are not included in the table.

**Table Appx - 12: Approximate Numbers of Paleontological Localities within 500 Feet of a Route Type by Alternative**

Type	Alt A	Alt B	Alt C	Alt D	Alt E
OHV-Open	131	85	121	162	138
OHV-Closed	36	78	48	2	29
OHV-Limited	4	8	2	7	4
<b>Totals</b>	<b>171</b>	<b>171</b>	<b>171</b>	<b>171</b>	<b>171</b>

Note: Localities are only included once per Alternative. If localities are within 500 feet of more than one type of route they were placed in the Open (or Limited) instead of Closed as access is still possible from one of the routes. Also see Table Appx - 10 for information on data source.

The cumulative impact scenario described in Section 3.2 provides a quantitative overview of cumulative actions. The risk of impacts on paleontological resources from the cumulative scenarios would depend on the locations of proposed disturbance relative to PFYC class. When the route designation decision is combined with these other actions the cumulative impacts to paleontological resources are anticipated to be minimal due to the requirements for resource assessments and mitigation combined with the low acreage that could be impacted by ground disturbing activities or increases in human use of areas under most scenarios.

## **A.9 AIB-9 (GREATER SAGE-GROUSE)**

*How would the route network alternatives impact Greater sage-grouse and their habitats, including general habitat management area (GHMA) and priority habitat management area (PHMA)?*

The analysis area for Greater sage-grouse and their habitats is the TMA, with a 3.1-mile boundary buffer, because this is the 2015 Utah Greater Sage-Grouse Approved Resource Management Plan Amendment (BLM 2015c) suggested distance for roads around active leks. The temporal scope of analysis is 20 years (see Section 3.1.1). The closest known lek is located approximately 6 miles from the nearest route, so no impacts to the lek would occur.

The population within this lek is part of the Parker Mountain-Emery biological significant population and is within a PHMA area that contains a total of 1,122,490 acres. Approximately 10,000 acres of the USFWS defined population range, and approximately 22 acres of the PHMA overlap with the TMA.

There are 0.53 miles of routes within the PHMA and population that are currently designated OHV-Limited seasonally under the 2008 Richfield RMP's travel plan. Specifically, OHV use, including incidental use such as passing, parking, and staging, and associated maintenance (see Section H.4 in Appendix H) may result in human presence and OHV noise impacts to individual grouse such as displacement from habitats during the length of the noise or presence. These effects would occur in very short time frames (estimated to be one to four days' worth of work, though it may be longer for longer routes). TMP implementation activities (Appendix H) that could minimize impacts to greater sage-grouse and their habitats include sign placement directing OHVs to routes that are less disruptive to special status species habitat, maintenance of existing routes to repair route drainage and avoid users driving around washed-out areas, enforcement of the route network, monitoring of route effects, and reclamation of routes as appropriate. These effects would occur over longer timeframes. Route network alternatives are not expected to change impacts lekking grouse because there are no known leks within 3.1 miles.

## **A.10 AIB-10 (SOCIOECONOMICS)**

*What are the socioeconomic impacts of the route network alternatives?*

The analysis area is Carbon and Emery counties because those are the counties most affected by recreation in the TMA. The temporal scope of analysis is 20 years (see Section 3.1.1). Any impacts to the socioeconomics of the planning area (Carbon and Emery counties) would come from changes in recreation visitation to the TMA and resultant changes in expenditures by visitors to the TMA. As documented in Sections 3.1.1 and 3.3.4.1 and Table 3-13, PFO expects no meaningful change in recreation visitation from the various alternatives due to access being preserved under all alternatives to the three RMZs and the five main destinations that receive the majority of the visitation. Therefore, the BLM does not anticipate a change in the local communities' ability to provide necessary public services and amenities. However, it is useful to describe the current contribution of visitation to the TMA to the economy of the planning area. Additionally, we can compare that impact to the overall impact of both recreation spending on BLM lands in the PFO and the overall impact of recreation and tourism to these two counties.

A common tool used by economists to estimate economic contributions is the Impact for Analysis (IMPLAN) model (IMPLAN 2024). IMPLAN takes spending inputs, in this case spending by recreationists in a variety of sectors (lodging, restaurants, groceries, etc.) to estimate economic output. Assumptions for the following models are:

- The socioeconomics planning area consists of Carbon and Emery counties, as most spending by visitors to the TMA are likely to occur in these two counties.
- All models use the latest available IMPLAN data (2022).
- Segment data (e.g., local vs nonlocal, day use vs overnight, camping vs lodging, etc.) provided by PFO recreation staff.
- Spending profiles for each segment based on USFS National Visitation Use Monitoring data for Manti-LaSal National Forest, with hotel rates adjusted for 2022 county-specific data (University of Utah 2024).
- Total PFO visitation data for FY23 from the BLM Recreation Management Information System (RMIS).
- PFO recreation staff estimate visitation to the TMA at 372,000 visitor days, which is not expected to vary by alternative.
- All output in 2022 dollars
- IMPLAN estimates are strictly linear. For example, increasing the estimate of recreation visitation by ten per cent will increase all outputs by the same ten per cent (see Model 3, Table Appx - 15, below).

Model 1 (Table Appx - 13) shows the estimated economic contribution of recreation visitation to all BLM lands managed by PFO. Model 2 (Table Appx - 14) shows the estimated economic contribution of recreation visitation to the TMA. The economic contribution of recreation in the TMA accounts for 64 per cent of the total employment in the PFO. This is not surprising, given that PFO estimates that the great majority of recreation in PFO occurs within the TMA. University of Utah 2024 estimates that overall recreation and tourism spending in the planning area accounts for 1,192 total jobs, most of which are direct employment. The 46.2 total employment estimate for the TMA represents 3.9 per cent of the Gardner estimate for the economic contribution of *all* recreation and tourism spending in Carbon and Emery counties, and not just BLM. Although Gardner uses IMPLAN, BLM does not have access to the specific spending profiles which they used. Nonetheless, BLM feels the results are comparable.

**Table Appx - 13: Model 1: Overall Economic Impact of Recreation Visitation to PFO, FY23**

Visitor Days: 576,995 (RMIS 2023)

	Employment	Labor Income	Value Added	Output
Direct Effect	58.8	\$1,902,748	\$2,639,482	\$4,492,715
Indirect Effect	7.6	\$328,076	\$544,046	\$1,303,089
Induced Effect	5.3	\$231,522	\$478,999	\$842,678
Total Effect	71.7	\$2,462,347	\$3,662,527	\$6,638,481

Note: Economic impact results are divided into three main categories (Direct, Indirect, and Induced). Direct impacts are those caused by the specified activity (e.g., the purchase of restaurant meals). Indirect impacts are supply chain impacts from the direct impacts (e.g., purchases of food by restaurants from suppliers). Induced impacts are the economy-wide ripple effects (e.g., the local businesses supported by direct employee spending).

**Table Appx - 14: Model 2: Economic Impact of Recreation Visitation to TMA, FY23 – All Alternatives**

Visitor Days: 372,000 (PFO recreation staff estimate)

	Employment	Labor Income	Value Added	Output
Direct Effect	37.9	\$1,226,739	\$1,701,726	\$2,896,514
Indirect Effect	4.9	\$211,517	\$350,757	\$840,127
Induced Effect	3.4	\$49,267	\$308,820	\$543,291
Total Effect	46.2	\$1,587,523	\$2,361,303	\$4,279,959

In summary, because visitation would not change across the alternatives, the current economic contribution based on current visitation (see Table Appx - 13 and Table Appx - 14) will remain unchanged across alternatives. The estimates above are just that—estimates—which could be affected by a wide range of local, regional and even national events (e.g., changes in travel costs). IMPLAN estimates are strictly linear, meaning that a doubling of recreation visitation would produce a doubling of the estimated economic contributions discussed above. To aid those readers who may feel that BLM estimates are too large or too small, Model 3 (Table Appx - 15) provides the marginal economic contribution per 10,000 visitor days to the TMA.

**Table Appx - 15: Model 3: Economic Impact of Recreation Visitation to TMA Per 10,000 Visitor Days**

	Employment	Labor Income	Value Added	Output
Direct Effect	1.0	\$32,977	\$45,745	\$77,864
Indirect Effect	0.1	\$5,686	\$9,429	\$22,584
Induced Effect	0.1	\$4,013	\$8,302	\$14,605
Total Effect	1.2	\$42,675	\$63,476	\$115,053

The analyses above focus on the socioeconomic planning area (Carbon and Emery counties). Economic contributions from visitation to the TMA, however, are not limited to the Carbon/Emery planning area but also can occur in neighboring counties, such as Wayne and even in areas far removed from the San Rafael Swell TMA.

### **Non-Market Values**

In addition to the economic impacts described above, it is important to also consider non-market values associated with BLM activities. The term *nonmarket values* refers to the benefits individuals attribute to experiences of the environment or uses of natural and cultural resources that do not involve market transactions and therefore lack prices. Examples include the benefits received from wildlife viewing, hiking in a wilderness, or hunting for recreation. Nevertheless, such values are important to consider because they help tell the entire economic story. Estimates of nonmarket values supplement estimates of income generated from commodity uses to provide a more complete picture of the economic implications of proposed resource management decisions. Unlike gasoline or employee wages, these values either do not have a market or do have a market but are difficult to quantify. Nevertheless, such values are important to consider because they help tell the entire economic “story.” This is especially important regarding recreation activities on BLM which are typically “free” to the user, but still have value even if not expressed in monetary terms. Despite the difficulties associated with measurement of these values, it is well-accepted that the natural, recreational, and cultural resources of an area, and the open space the area may provide, have value, even if difficult to quantify in dollars.

Nonmarket use values have been studied extensively for a wide variety of recreation “goods.” (Examples of a range of typical nonmarket use values—consumer surplus values—for recreation activities can be found in a recent Oregon State University report (Rosenberger 2016). That report summarizes the findings from 421 studies (totaling 3,192 different value estimates) covering the U.S. and Canada from 1958–2016 and separates the studies by region. This data is revealing, in that it indicates that visitors may be getting great value for their recreation activities in the socioeconomic study area and may be more willing as a result to visit here and continue to contribute their spending to the local economy. TMP implementation activities (Appendix H) that could minimize effects to non-market values include sign placement clarifying the route network, maintaining the routes appropriate to the route class, enforcement of the route system, monitoring of the effects, and reclamation of routes as appropriate, all of which have the potential to improve the recreation experience in the area. These effects would occur over longer timeframes.

On the basis of the above analysis, BLM believes there would be only minimal impacts to the planning area’s economy under any alternative, and detailed analysis is not required. There are no past, present or reasonably foreseeable actions that would alter this conclusion.

### **A.11 AIB-11 (MUNICIPAL WATERSHED/DRINKING WATER)**

*How would the route network alternatives impact municipal watershed/drinking water source protection zones?*

The TMA is the analysis area because that is the smallest unit that shows all the impacts to municipal watersheds and drinking water source protection zones. The temporal scope of analysis is 20 years (see Section 3.1.1). The Utah Division of Drinking Water (DDW) has defined Drinking Water Source Protection (DWSP) zones for surface water sources used by public drinking water systems in Utah. These water sources have been divided into different zones of protection outlined in Table Appx - 16.

**Table Appx - 16: Descriptions of DDW Defined DWSP Zones**

Zone	Definition/Descriptions
Zone 1	Zone 1 is the closest to the source to be used by public drinking water systems. (A) Streams, rivers and canals: zone 1 encompasses the area on both sides of the source, 1/2 mile on each side measured laterally from the high-water mark of the source (bank full), and from 100 feet downstream of the POD to 15 miles upstream, or to the limits of the watershed or to the state line, whichever comes first. If a natural stream or river is diverted into an uncovered canal or aqueduct for the purpose of delivering water to a system or a water treatment facility, that entire canal will be considered to be part of zone 1, and the 15-mile measurement upstream will apply to the stream or river contributing water to the system from the diversion. (B) Reservoirs or lakes: zone 1 is considered to be the area 1/2 mile from the high-water mark of the source. Any stream or river contributing to the lake/reservoir will be included in zone 1 for a distance of 15 miles upstream, and 1/2 mile laterally on both sides of the source. If a reservoir is diverted into an uncovered canal or aqueduct for the purpose of delivering water to a system or a water treatment facility, that entire canal will be considered to be part of zone 1, and the 15-mile measurement upstream will apply to the reservoir and tributaries contributing water to the system.
Zone 2	Zone 2 is defined as the area from the end of zone 1, and an additional 50 miles upstream (or to the limits of the watershed or to the state line, whichever comes first), and 1000 feet on each side measured from the high-water mark of the source.
Zone 3	Zone 3 is defined as the area from the end of zone 2 to the limits of the watershed or to the state line, whichever comes first, and 500 feet on each side measured from the high-water mark of the source.
Zone 4 <sup>1</sup>	Zone 4 is defined as the remainder of the area of the watershed (up to the state line, if applicable) contributing to the source that does not fall within the boundaries of zones 1 through 3.

<sup>1</sup> Zone 4 is not considered in this analysis because it represents upland areas distant from water sources used by drinking water systems.

Source: DDW 2024

The northern portion of the TMA (north of I-70) overlaps with what DDW has mapped as the Green River Intake for the City of Green River. There are no mapped municipal watersheds located in the southern portion of the TMA (south of I-70). The Green River Intake has a boundary that extends from the Green River City water facility north to the Utah/Wyoming boarder and east to the Utah/Colorado boarder. Due to the size of the area, the Hydrological Unit Code (HUC) 10 watershed level was used to analyze the Green River Intake Drinking Water Source Protection zone. Within the northern TMA boundary there are six HUC 10 watersheds: Cole Creek – Price River, Grassy Trail Creek, Little Park Wash-Price River, Cottonwood Wash – Price River, Deep Seep Wash, Upper San Rafael River. Table Appx - 17 shows the square miles of Surface Protection Zones found within the HUC 10 watersheds.

**Table Appx - 17: Square Miles of Surface Protection Zones in HUC 10 Watersheds that Intersect with Northern Portion of the TMA (North of I-70)**

	Cole Creek - Price River	Grassy Trail Creek	Little Park Wash - Price River	Cotton Wood Wash - Price River	Deep Seep Wash	Upper San Rafael River	Totals square miles
Zone 4	398	467	444	195	303	2	1,810
Zone 3	27	15	0	72	18	0	131
Zone 2	0	16	61	67	0.00	0	143
Zone 1	0	14	0	0	0.00	0	14

Table Appx - 18 shows the number of routes intersecting with Surface Water Protection Zone 2 and 3. Zone 1 is not considered because it is not present within the TMA boundary where the effects would be occurring.

**Table Appx - 18: Numbers of Routes Intersecting with Surface Water Protection Zone 2 and Zone 3 in the Northern Portion of the TMA (North of I-70)**

	Designation	Alt. A	Alt. B		Alt. C		Alt. D		Alt. E	
		Routes	Routes	Change from Alt A	Routes	Change from Alt A	Routes	Change from Alt A	Routes	Change from Alt A
Zone 2	OHV-Open	31	89	+58	150	+119	175	+144	47	+16
	OHV-Closed	46	92	+46	32	-15	7	-40	64	+18
Zone 3	OHV-Open	7	47	+40	65	+58	73	+66	32	+25
	OHV-Closed	6	26	+21	8	+3	2	-4	25	+19

The OHV-Open and OHV-Limited designations in the route network alternatives may result in soil-displacing, soil-compacting, and water-redirecting activities (e.g., route use by OHV recreationists) that leads to surface erosion, head cutting, and possible delivery of sediment to waterways. Because the route network alternatives only consider existing routes and are already disturbed surfaces, they do not represent new or additional sources of sediment delivery.

TMP implementation activities (Appendix H) that could result in compaction or increased sediment or contaminant load include route maintenance (e.g., surface and ditch blading.), reclamation (e.g., raking), and sign placement (e.g., digging post holes). These effects would occur in very short time frames (estimated to be one to four days' worth of work, though it may be longer for longer routes). TMP implementation activities that could minimize compaction, sediment, or contaminant load include sign placement directing OHVs to routes that are less disruptive to waterways, maintenance of route drainage to control erosion, network enforcement, impact monitoring, and route reclamation as appropriate. These effects would occur over longer timeframes.

Of the routes in the northern portion of the TMA, 28.8% intersect DWSP Zone 2 and 7.4% intersect Zone 3 (see Table Appx - 19). The nature and extent of the effects disclosed above indicate that detailed analysis is not required.

**Table Appx - 19: Square Miles and Percent of Surface Protection Zones in TMA**

Zone	Square Miles in TMA	Percent out of Six HUC-10s
4	319	17%
3	10	7%
2	41	29%
1	0	0%

Past, present, and reasonably foreseeable actions, plans, projects, or activities impacting municipal watershed/drinking water source protection zones within the analysis area include grazing, Olsen Reservoir, Price River restoration project, mineral development (e.g., oil and gas development), state-owned land development, and municipality development. These projects and OHV-related activities as well as reasonably foreseeable projects, ongoing seasonal snowmelt runoff, and monsoon events on disturbed areas in the analysis area may deliver sediment.

## **A.12 AIB-12 (MIGRATORY BIRDS)**

*How would the route network alternatives impact migratory birds, including raptors?*

The analysis area for migratory birds is the TMA because migratory bird habitat for breeding, nesting, migrating, and wintering can be found throughout the TMA. The temporal scope of analysis is 20 years (see Section 3.1.1). The analysis area includes the San Rafael Swell Recreation Area in which the Dingell

Act calls for the protection, conservation, and enhancement of its natural, wildlife, and ecological resources. Some MBTA species are covered in the “Special Status Wildlife” section (3.3.11) in this EA: Golden Eagle, Ferruginous Hawk, Burrowing Owl. Per the 2008 Price RMP, the highest value breeding migratory bird and raptor habitat exists along the Price River, San Rafael River, and Muddy Creek. Various migratory birds (including raptors, waterfowl, songbirds, neotropical migrants, and special status birds) utilize habitat throughout the TMA. In the context of this EA, a “migratory bird” is one protected under the Migratory Bird Treaty Act (MBTA). In Utah, especially in the more arid areas such as the San Rafael Swell, lowland riparian habitat is especially important for migratory bird species. Approximately 23,534 acres of riparian areas occur within the TMA (see Section 3.3.8).

As part of addressing the MBTA, the USFWS has identified Birds of Conservation Concern (BCC), which are high conservation priority MBTA species that are not already protected by the ESA. Migratory Birds of Conservation Concern, based on the USFWS’s Information for Planning and Consultation (IPaC) system, that could potentially be found in the TMA are included in Table 20.

Table Appx - 20 summarizes the habitat specific to BLM sensitive and BCC migratory bird species present in the TMA.

**Table Appx - 20: Migratory Bird Species Analyzed in Brief**

Species	Habitat
American Three-toed Woodpecker ( <i>Picoides dorsalis</i> )	In Utah, this woodpecker nests and winters in coniferous forests, generally above 8,000 ft (2,400 m) in elevation. Approximately 0.15% of the TMA contains potential habitat according to a USGS Conterminous United States (CONUS) habitat model. Due to the scattered and fragmented nature of high elevation forested habitat within the TMA, use by American Three-toes Woodpeckers is unlikely.
Bald Eagle ( <i>Haliaeetus leucocephalus</i> )	While breeding pairs are not common within the TMA, bald eagles could potentially utilize locations near bodies of water or in open grasslands during the winter. A USGS CONUS habitat model shows potential habitat for Bald Eagles adjacent to the TMA boundaries. Use of habitat within the TMA is possible, but unlikely.
Lewis’s Woodpecker ( <i>Melanerpes lewis</i> )	Inhabits burned-over Douglas-fir, mixed conifer, pinyon-juniper, riparian, and oak woodlands, but is also found in the fringes of pine and juniper stands, and deciduous forests, especially riparian cottonwoods. Breeding habitat consists of open, park-like ponderosa pine forests. Areas with a good under-story of grasses and shrubs to support insect prey populations are preferred. According to a USGS CONUS model of suitable habitat, approximately 0.15% of the total TMA could be considered suitable. This species is sighted irregularly and appears to not utilize the potential habitat within the TMA.
American Goshawk ( <i>Accipiter gentilis</i> )	Prefers dense, mature mountain forest and riparian zone habitats. Nests are constructed in trees in mature forests; often nests previously used by Northern Goshawks or other bird species are re-used. According to a USGS CONUS model of potential habitat, approximately 37 % of the total TMA could be suitable based on tree density, however, the lack of mature forests makes the habitat marginal at best. In addition, the BLM has no knowledge of any sightings within the TMA.
Short-eared Owl ( <i>Asio flammeus</i> )	Found in grasslands, shrublands, and other open habitats. The species is nomadic, often choosing a new breeding site each year, depending on local rodent densities. The TMA contains potential habitat for Short-eared Owl use during winter months according to a USGS CONUS species range model. Short-eared Owls are likely to be found foraging in agricultural fields where prey species are abundant. No agricultural fields are in the TMA. Recreational use in the TMA is lowest in the winter months.

Species	Habitat
Pinyon Jay ( <i>Gymnorhinus cyanocephalus</i> )	This species is a Pinyon-juniper woodland dependent that relies on pinyon pine nuts as a primary food source. There is potential habitat within the TMA, but no official habitat model is currently available.
Black Rosy-finch ( <i>Leucosticte atrata</i> )	Black Rosy-finch are high-elevation breeders, primarily found in tundra and alpine habitats. During winter months they move to adjacent, lower elevation habitats to forage. Black Rosy-finch could potentially be found in the TMA mixing with flocks of other finches or sparrows during winter months. Recreational use in the TMA is lowest in the winter months.
Clarks Nutcracker ( <i>Nucifraga columbiana</i> )	Clark's Nutcrackers are found almost exclusively in coniferous forests from 3,000-12,000 feet. They breed in higher elevations and move lower in the fall and winter months. Dense pinyon-juniper forests within the TMA contain potentially suitable habitat for Clark's Nutcrackers in the fall and winter months. Recreational use in the TMA is lowest in the winter months.
Evening Grosbeak ( <i>Coccothraustes vespertinus</i> )	Evening Grosbeaks breed in mature, dense, second-growth coniferous forests from 5,000 -10,000 feet in elevation. During the winter months they will utilize lower elevation woodlands. Pinyon-juniper forests are the primary woodland type in the TMA and could be utilized by Evening Grosbeaks in the winter months. Recreational use in the TMA is lowest in the winter months.
Olive-sided Flycatcher ( <i>Contopus cooperi</i> )	Olive-sided Flycatchers breed primarily in boreal and mountain forests, typically adjacent to riparian habitats such as streams and ponds. During the winter months they migrate to Central and South America. Olive-sided Flycatchers are unlikely to breed within the TMA but could utilize riparian habitats within the TMA during migration.

For more detailed information on migratory birds, and their habitats, see the "Wildlife" section of the 2008 Price Proposed RMP/EIS (BLM 2008d, pages 3-51 to 3-59), the "Fish and Wildlife" section of the 2008 Richfield Proposed RMP/EIS (BLM 2008f, pages 3-70 to 3-77), and NatureServe Explorer (NSE 2024).

Within the analysis area, public visitation and route use levels vary by season. High-visitation months coincide with the spring season during nesting and fledging, with the fall and winter months receiving much lower use. Human activity such as OHV riding, in addition to route maintenance, can result in migratory birds and raptor habitat avoidance and abandonment, daily movement interference, increased physical stress that can result in decreased health, parturition, and increased vehicle collisions resulting in injury or mortality (Ouren et al. 2007, Ortega 2012), and interference with courtship, nesting, brood-rearing, or fledging activities. Because of sensitivity and fidelity to nest territory, abandonment of nest sites due to nearby human disturbances is of particular concern. Noise from OHV use also disturbs migratory birds in their habitats (Naidoo and Burton 2020). Route use in riparian areas is of particular concern for most upland game birds because of the importance of those habitats to the species.

The nature of the impacts of Alternatives A through E are the same as previously described. TMP implementation activities (Appendix H) that could remove, crush, or dust forage or habitat of migratory birds include route maintenance (e.g., surface and ditch blading.), and reclamation (e.g., raking), and sign placement (e.g., digging post holes). Birds themselves could be affected by the noise of the maintenance equipment and humans. These effects would occur in short time frames (estimated to be one to four days' worth of work, though it may be longer for longer routes). TMP implementation activities (Appendix H) that could minimize impacts to migratory birds and their habitats include sign placement directing OHVs to routes that are less disruptive to bird habitats, maintenance of existing routes to repair route drainage and avoid users driving around washed-out areas, enforcement of the route network, monitoring of route effects, and reclamation of routes as appropriate. These effects would occur over longer timeframes.

Table Appx - 21 shows the difference in the magnitude of the impacts between the alternatives by calculating the acres of habitat within the species-specific buffer of an OHV-Open or OHV-Limited route for each alternative. Impacts to riparian areas, which are particularly important for migratory birds, are analyzed in Section 3.3.8.

**Table Appx - 21: Acres of Migratory Bird Potential Habitat Within Species-Specific Buffers of OHV-Open and OHV-Limited Routes by Alternative**

Species	Species-Specific Buffer	Acres of Potential Habitat in TMA	Alt A Area of Impact (Acres)	Alt B Area of Impact (Acres)	Alt C Area of Impact (Acres)	Alt D Area of Impact (Acres)	Alt E Area of Impact (Acres)
American Three-toed Woodpecker	100 meters	1,922	229	171	278	360	207
Lewis's Woodpecker	100 meters	1,939	229	171	279	361	208
Northern Goshawk	.5 mile	485,800	261,791	235,150	286,370	313,635	268,638
Short-eared Owl*	.25 mile	1,238,875	336,529	295,622	388,641	446,909	351,260
* A habitat model was not available for this species. A range map from the USGS CONUS Gap Analysis project was used as a replacement.							

The past, present and foreseeable trends and activities listed in Section 3.2 that occur within the TMA and along the Price River, San Rafael River, and Muddy Creek accumulate human activity-related effects to migratory birds and raptors including disrupted or displaced breeding; changes in nesting behavior that result in reduced reproductive success; spatial and temporal changes in foraging activities that result in decreased fitness; altered species richness and community composition; and alteration to nesting, burrowing, brooding, foraging habitat, and mortality. The contribution of the alternatives to the cumulative effects is described in Table Appx - 21.

Only routes which physically exist on the ground (open or closed) were evaluated for this plan. The alternatives would not redistribute recreation from the high use areas to the low use areas, and none of the alternatives would authorize the construction of routes, authorize use of a route that has not already been subject to ongoing use even if such use was unauthorized, add or remove access to major area destinations, authorize events, create or remove an attraction that would draw new visitors, or authorize an action (such as construction) that would involve worker access. Migratory birds and raptors are not analyzed further because the magnitude of the change to the species between each alternative is minimal. The species with the greatest amount of habitat potentially impacted by route use is the Short-eared Owl. Out of 1.2 million acres of habitat within the TMA identified to be within the owl's range, the alternatives have the potential to affect between 295,622 and 446,909 acres (24% and 36%). Approximately 38% of the Short-eared Owls range in the TMA is located within wilderness boundaries. Because of the limited amount of suitable habitat for the species of migratory birds analyzed, and the protections for habitat within wilderness boundaries, the issue was not carried forth for further analysis.

### **A.13 AIB-13 (PUBLIC HEALTH AND SAFETY)**

*How would the route network alternatives impact public safety within the TMA and emergency services within and adjacent to the TMA?*

The analysis area for public safety and emergency services is the TMA for 20 years because that is the area and timeframe influenced by the route network alternatives. Emergency vehicles are excluded from the 43 CFR § 8340.0-5 definition of OHVs so emergency service access within the analysis area would not vary across alternatives. However, access times may be slowed if a needed route is reclaimed under this TMP. Federal authorities such as the Dingell Act allow for necessary maintenance or repairs to roads designated for the use of motorized vehicles, including necessary repairs to keep existing roads free of debris or other safety.

OHV use and the attendant dangers to human health and safety from OHV operation would only occur on any routes designated as OHV-Open or OHV-Limited under each alternative (see Map 2 through Map 6

and Section 2.2). According to the United States Consumer Product Safety Commission (CPSC) the dangers to public health and safety from OHV<sup>56</sup> use include vehicle collisions, overturns, and occupant ejection. Collisions can occur with other vehicles, stationary objects, or living beings and can occur simultaneously with an overturn (Topping 2021). Collisions and overturns are often preceding events that lead to ejection, the danger most frequently associated with fatality (Topping 2021).

Overturns occur because of steep terrain, changes in surface terrain, sharp turns, or operating at high speeds (Topping 2021). Vehicle collisions can occur due to driver error, vehicle malfunctions, hazardous road conditions, or a combination of issues (NHTSA 2008). Collisions may also be more likely to occur in areas with increased traffic. Hazardous road conditions are influenced by route conditions (sharp curves, steep inclines, width, and terrain), route use levels or conditions (e.g., vehicle type limitations), and environmental conditions (e.g., weather) (NHTSA 2008). The Implementation Guide (Appendix H) includes measures to minimize effects and user conflicts, such as signs to direct and inform traffic on the route, and maintenance of the routes appropriate to the route classification.

The latest CPSC report showed 2,156 OHV fatalities nationwide from 2016-2018 (Topping 2021). Less than one percent of the reported fatalities occurred in Utah (Topping 2021), though the number of fatalities that occurred in the TMA is unknown. As described in the cumulative recreation paragraph (Section 3.2.5) and the Recreation analysis (Section 3.3.4), while recreation use is expected to increase with population growth, the primary recreation areas are not expected to change across alternatives. Effects to public health and safety as a result of designating an OHV travel network were considered and analyzed as they relate to recreation (Section 3.3.4), air quality (AIB-1 and -2), water resources (Section 3.3.8) and mineral development (AIB-15). Therefore, impacts to public health and safety and emergency access do not require additional analysis to determine significance.

#### A.14 AIB-14 (SENSITIVE PLANT SPECIES)

*How would the route network alternatives impact BLM Sensitive plant species?*

The analysis area is the TMA because it is the smallest unit that shows all impacts to species within the TMA. The temporal scope of analysis is 20 years (see Section 3.1.1). The analysis area includes the San Rafael Swell Recreation Area in which the Dingell Act calls for the protection, conservation, and enhancement of its natural and ecological resources. Analysis of impacts was done by buffering potential habitat for each species by 300 feet to account for the spread of fugitive dust (USFWS 2021d), and then calculating the total acreage of sensitive plant species habitat in the analysis area include Bolander's camissonia (*Camissonia bolanderi*), Entrada rushpink, aka rushpink skeletonplant (*Lygodesmia grandiflora* var. *entrada*), Jones indigo bush aka Jones' dalea (*Psoralea polydenius* var. *jonesii*), Mussentuchit gilia (*Aliciella tenuis*), Pinnate spring-parsley (*Cymopterus beekii*), Smith's wild buckwheat (*Eriogonum corymbosum* var. *smithii*), Thompson's talinum aka Cedar Mountain flameflower (*Phemeranthus thompsonii*), and Utah spurge, aka paria spurge (*Euphorbia nebradenia*). Habitat for these species is described in Table Appx - 22.

**Table Appx - 22: BLM Sensitive Plant Species Analyzed in Brief**

Species	Habitat <sup>[1]</sup>
Bolander's camissonia	Bolander's camissonia is a Utah endemic annual which occurs on the Moenkopi formation throughout the TMA. Approximately 17% of the TMA contains habitat suitable for the species.

<sup>56</sup> The United States Consumer Product Safety Commission identifies a definition for OHV that differs slightly from 43 CFR§ 8340.0-5. A link to the latest report and OHV definition can be found here: [OHV Report 2021 \(cpsc.gov\)](https://www.cpsc.gov/ohv-report-2021).

Species	Habitat <sup>[1]</sup>
Entrada rushpink, rushpink skeletonplant	Entrada rushpink is endemic to Emery, Grand, and San Juan counties, and has been recorded east of the San Rafael Reef. It typically occurs on the Entrada formation in mixed desert shrub communities and pinyon-juniper woodlands. Approximately 2.6% of the TMA contains habitat suitable for the species.
Jones indigo bush, Jones' dalea	Jones indigo bush is endemic to Emery and Grand counties. The species occurs on Blue Gate and Tununk members of Mancos Shale and, less commonly, on sandy terrace gravels, at 4,200 to 4,900 feet in elevation. It is associated with shadscale, mat-saltbush, Mormon tea, and galleta vegetation communities. Approximately 27% of the TMA contains potentially suitable habitat for the species. The species has been described as locally common in an area east of the TMA boundary (NatureServe).
Mussentuchit gilia	Mussentuchit gilia is endemic to Emery, Wayne, and Sevier counties. Approximately 49% of the TMA contains habitat that may be suitable for the species. Most populations occur along a roughly 30-mile span of the rugged, exposed "reef" on the west side of the San Rafael Swell and many of the known populations of Mussentuchit gilia are located within protected areas (Capitol Reef Nation Park & Muddy Creek wilderness). Due to the rough terrain associated with its habitat, there are limited roads near or within occupied habitat.
Pinnate spring-parsley	Pinnate spring-parsley is found in two disjunct areas of southeastern Utah and one small area in Navajo County, Arizona. It is common in Utah but rare in Arizona. Typical habitat includes shady or partially shaded crevices, ledges, and cliff bases on Navajo Sandstone in pinyon-juniper, mountain brush, and occasionally ponderosa pine-manzanita conifer-oak, and Douglas fir communities. The steep and rugged habitat of this species is not conducive to roads and there are no roads within known habitat. 2.4% of the TMA is considered suitable habitat for the species.
Smith's wild buckwheat	Smith's wild buckwheat, or Flat Top buckwheat, is an endemic species found in a very narrow range along the borders of Emery and Wayne counties. Habitat for Smith's wild buckwheat consists of deep sand dunes and mixed grassland and shrub oak communities (Boufford 1993). Within the TMA, occurrences have been documented around Gilson Butte and Little Gilson Butte (SEiNet). There are few routes allowing access to the known population of Smith's wild buckwheat within the TMA, with the closest route dead-ending approximately 1 mile away.
Thompson's talinum, Cedar Mountain flameflower	The Cedar Mountain flameflower, or Thompson's talinum, is found primarily along the top of Cedar Mountain in slick rock dominated areas. Within the known habitat there are few designated roads, and those roads are primarily on rocky, low dust substrates. Roughly 0.1% of the TMA is considered suitable habitat for the species.
Utah spurge, paria spurge	Utah spurge is a Colorado Plateau endemic, occurring in Emery, Garfield, Kane, and Wayne counties along the east edge of the San Rafael Reef, in dark clay hills, sand, and stabilized dunes. It is associated with mat-saltbush, blackbrush, Mormon tea, and mixed sandy desert shrub and grassland vegetation communities. This species is an annual, and dependent on precipitation levels, which causes population fluctuations. Approximately 4.6% of the TMA contains habitat suitable for the species.

Within the analysis area, threats to BLM sensitive plant species include OHV use, grazing and trampling by livestock, mining and quarrying, competition from invasive and noxious weeds, and climate change, though none of these threats are considered severe for the species discussed in this section. Specifically, OHV use, including incidental use such as passing, parking, and staging, and associated maintenance (see Section H.4 in Appendix H) may result in adverse impacts to BLM sensitive plants and their pollinators include crushing of plants or pollinators, fugitive dust deposition reducing stomatal conductance, increased transpiration rates, increased leaf temperature, decreased photosynthetic rates, decreased reproductive rates (Farmer 1993, Goossens and Buck 2009, USFWS 2010) and with its attendant species competition and habitat alteration. Extreme weather such as drought, extreme heat or cold, or heavy snowfall exacerbate these effects. Route networks with open or limited designations can contribute to the

effects described above. Closed designations eliminate OHV use effects, thereby benefiting special status plant species. Livestock grazing for the majority of the TMA occurs in the late fall, winter and early spring while the vegetative species are dormant. Mines and or quarries applied for permit within the TMA would be surveyed and mitigated for sensitive plant species prior to permit being approved during the required NEPA process. Most invasive plant species are dependent on human-related disturbance to become established in an area. The BLM has and continues to monitor for movement of invasive species.

The nature of the impacts of Alternatives A through E are the same as previously described. Table Appx - 23 shows the difference in the magnitude of the impacts between the alternatives by calculating the acres of habitat within the species-specific buffer of an OHV-Open or OHV-Limited route for each alternative.

**Table Appx - 23: Acres of BLM Sensitive Plant Potential Habitat within 300 Feet of OHV-Open or OHV-Limited Routes by Alternative**

Species	Acres of Potential Habitat in TMA	Alternative A Area of Impact (Acres)	Alternative B Area of Impact (Acres)	Alternative C Area of Impact (Acres)	Alternative D Area of Impact (Acres)	Alternative E Area of Impact (Acres)
Bolander's camissonia	225,347	22,536	18,399	25,642	29,525	22,839
Entrada rushpink	34,385	2,140	1,716	2,469	2,695	2,064
Jones indigo bush	354,316	28,990	26,489	34,577	41,256	30,982
Mussentuchit gilia	649,682	41,338	33,741	47,871	58,201	41,895
Pinnate spring parsley	31,815	1,045	1,042	1,202	1,267	1,042
Thompson's talinum	1,489	11	18	18	90	17
Utah spurge	60,232	5,386	4,757	6,349	6,994	5,625

The past, present and foreseeable trends and activities listed in Section 3.2 that occur within the TMA include crushing of plants or pollinators, fugitive dust deposition reducing stomatal conductance, increased transpiration rates, increased leaf temperature, decreased photosynthetic rates, and decreased reproductive rates to sensitive plants, their pollinators, and their habitats. The contribution of the alternatives to the cumulative effects is described in Table Appx - 23.

The greatest percentage of habitat affected between the alternatives and species comes from Alternative D for Entrada rushpink at 7.8%. Therefore, the impacts are not considered meaningful for the decision maker and Sensitive plants and their habitats are not analyzed further because none of the alternatives would authorize new surface disturbance.

## A.15 AIB-15 (MINERALS)

*How would the route network alternatives impact mineral exploration, development, and operations in the TMA?*

The TMA is chosen as the geographic scope because it includes all the mineral sites that use the evaluated routes. The temporal scope of analysis is 20 years (see Section 3.1.1).

Within the TMA, there are 382 mining claims and four locatable mineral active Plans of Operation. The TMA also contains 11 mineral material sites (i.e., sand, gravel, clay, and stone) and 18 oil and gas leases, plus one parcel under consideration for lease. Within the TMA there are 421 routes that were identified as primary access to mining claims, mineral material sites, free use permits, oil and gas leases, community pits, or uranium districts. Mineral site development traffic may consist of haul trucks, semi-trucks, drill rigs, heavy equipment, or work crew vehicles. For more details on oil/gas and mineral development in the Price and Richfield Field Offices in general, see pages 3-78 to 3-84 of the 2008 Price Proposed RMP/EIS (BLM 2008d) and pages 3-107 to 3-117 of the 2008 Richfield Proposed RMP/EIS.

Access to permitted or leased mineral development sites in the TMA is included in each mineral site's Plan of Operations, Notice, or Application for Permit to Drill, and is not changed by any OHV designations resulting from this plan. If a mining claimant requires access to develop their claim, BLM will work with the claimant to authorize access consistent with applicable law.

The potential effects of public OHV access on mineral development activities are those related to conflicts with recreation users including equipment or facility vandalism, theft, disruption of operations, or operation safety concerns. Designating evaluated routes as OHV-Open or OHV-Limited can provide public access to these mineral sites. Designating routes as OHV-Closed prevents OHV access altogether, though non-OHV access may still occur. However, according to 43 CFR § 3809.420(b)(13), "during all operations, the operator would maintain his or her structures, equipment, and other facilities in a safe and orderly manner. Hazardous sites or conditions resulting from operations would be marked by signs, fenced, or otherwise identified to alert the public in accordance with applicable Federal and state laws and regulations." The Implementation Guide (Appendix H) includes measures to minimize user conflicts such as signs to direct and inform traffic on the route, and maintenance of the routes appropriate to the route classification.

Routes that currently exist for authorized mineral uses would not be reclaimed even if designated as OHV-Closed so long as the authorization remains in place. If future operators wish to use routes that are changed from OHV-Open to OHV-Closed, the amount of acreage disturbed, reclamation required, and bond could increase and would be authorized under a separate decision from this TMP.

In conclusion, route designation decisions would not preclude access for mineral lease or permit holders and other authorized users. None of the proposed alternatives would result in the loss or gain of authorized access to current mineral development leases or sites. Even routes that are designated OHV-Closed would remain available for authorized use, as authorized. Route designation decisions could impact public access to mineral sites. However, maintenance and public safety regulatory requirements would reduce opportunities for conflicts with recreation users. Also, changing routes from OHV-Open to OHV-Closed could make future exploration and mineral development more expensive due to increased reclamation costs but not to an extent that would preclude mineral development. There are no other anticipated relationships with other resources. No additional analysis is needed to determine significance because OHV designations would not apply to authorized users or preclude future authorizations, and regulatory mechanisms already exist to prevent conflicts with recreational uses.

## **A.16 AIB-16 (DARK NIGHT SKIES)**

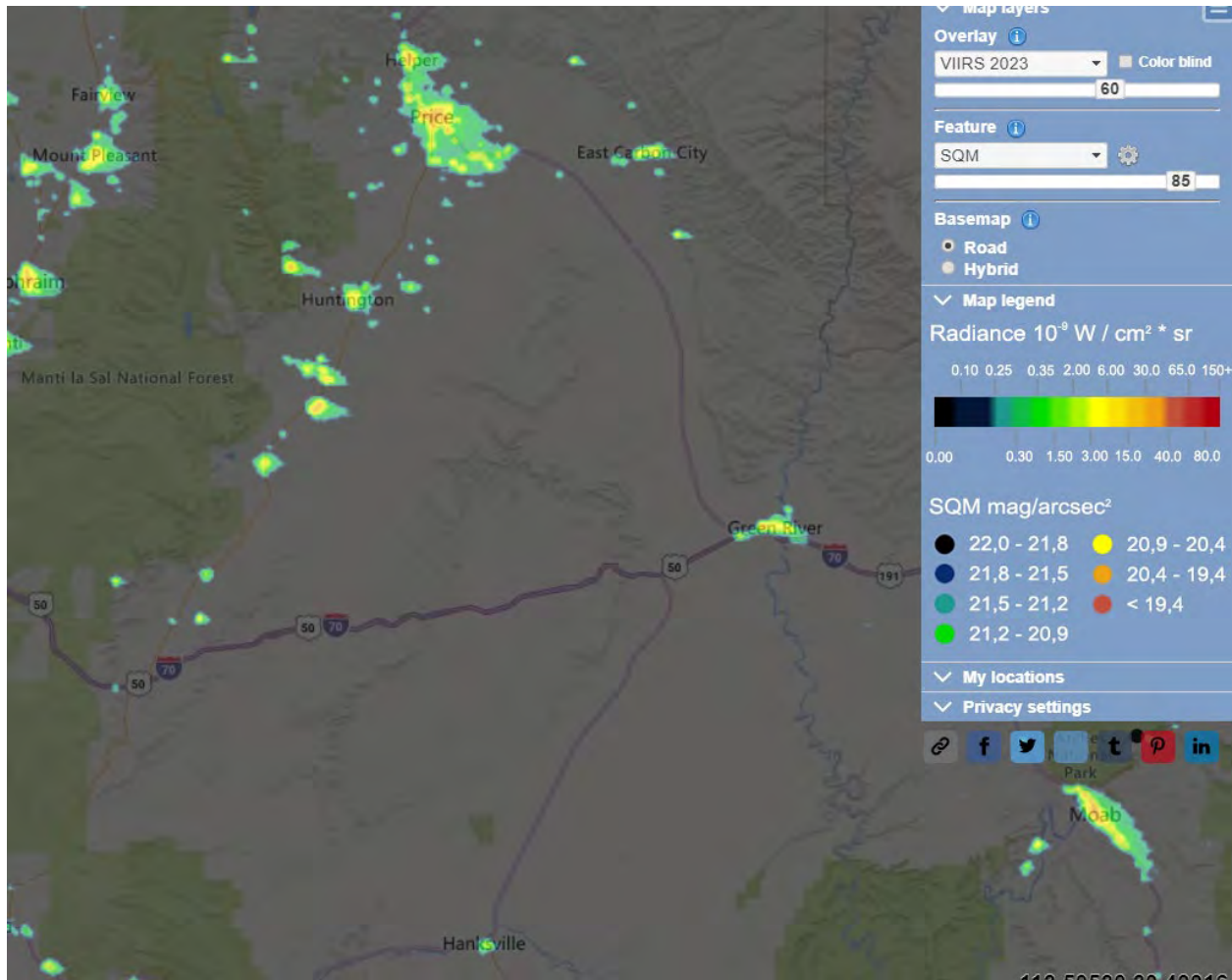
*How would the route network alternatives impact the quality of dark night skies?*

The analysis area is the TMA because that is the smallest unit showing all the effects expected from the TMP. The temporal scope of analysis is 20 years (see Section 3.1.1). Dark night skies contribute to the remote experience that many people seek when they visit public lands. Light pollution diminishes the aesthetic values of the night sky by making it difficult to see fainter stars or other faint celestial objects (BLM 2023a). Optimal night skies are free of scattered light or skyglow, which is generated by anthropogenic light from development, transportation, or industrial operations. The scattering of artificial light in the atmosphere increases night sky luminance and erodes the visual appearance of stars and planets.

The communities of Price, Huntington, Castle Dale, Ferron, Emery, Hanksville, and Green River introduce only modest amounts of light pollution and minimally contribute to sky glow within the TMA (see Figure Appx - 1). Goblin Valley State Park was visited by the NPS Dark Sky Team in 2015 and determined to have exceptionally dark night skies. Capitol Reef National Park was designated as an International Dark Sky Park in 2015. Based on the 2023 data from <http://www.lightpollutionmap.info>, the

San Rafael Swell TMA has sky quality meter (SQM) values<sup>57</sup> between 21.8-22.0 which places it solidly within Bortle Class 1, the highest quality of dark night skies possible (Bortle 2006). Bortle Class 1 areas are described as Excellent Night Sky sites where portions of the Milky Way cast obvious shadows, many constellations are difficult to distinguish within the heavy background of visible stars, sources of zodiacal light, airglow, and globular clusters are readily visible to the naked eye, and both Jupiter and Venus are bright enough to affect night adaptation.

**Figure Appx - 1: 2023 Light Pollution Map of San Rafael Swell**



Potential impacts to dark night sky viewing experiences from the proposed alternatives would include temporary, transient, low-angle disturbances near the horizon from vehicle headlights or taillights while traveling after dark. Headlights can sometimes create temporary skyglow when reflecting off canyon walls. These impacts can be expected to occur most frequently early in the evenings when vehicles are traveling to and from trailheads or dispersed camping locations. Temporary and localized impacts to night sky viewing may also occur from occupied dispersed campsites accessed via the travel network. Later evenings and early morning hours when visitors are normally asleep would likely see much fewer impacts

<sup>57</sup> Sky quality meter (SQM) ratings measure the luminance of the night sky on a scale between the numbers of 16.00-22.00. Lower numbers indicate brighter skies such as in urbanized areas and higher numbers indicate darker skies such as in remote, uninhabited areas. SQM values for any point on Earth can be determined from <http://www.lightpollutionmap.info>.

from vehicle lights and dispersed camping. Due to the temporary and transient nature of the anticipated impacts, cumulative effects to dark night skies would not result from vehicle travel or associated dispersed camping within the TMA. Motor vehicle lighting requirements are established under the Federal Motor Vehicle Safety Standards by the National Highway Traffic Safety Administration, and therefore, are outside the purview of BLM's authority to influence. Motor vehicle regulation and registration are under the jurisdiction of the Utah Division of Motor Vehicles. TMP implementation activities (Appendix H) that could minimize impacts to night skies include sign placement to clarify and enforcement of the route network so that vehicle headlights aren't seen on OHV-Closed routes.

## **A.17 AIB-17 (NATURAL SOUNDSCAPES)**

*How would the route network alternatives impact natural soundscapes?*

The analysis area is the TMA because it overlaps rural areas in Emery and Sevier counties. The temporal scope of analysis is 20 years (see Section 3.1.1). In rural areas, ambient sound levels are typically 30 to 40 A-weighted decibels (dBA) (EPA 1974). As a basis for comparison, the sound levels of a normal conversation between two people standing 5 feet apart is 60 dBA. Highway traffic noise typically ranges from 70 to 80 dBA at a distance of 50 feet from the highway (USDOT 2003). Decibels (dB) are the units of measure used to represent sound pressure levels, and dBA is the unit of measure of sound pressure levels using the A-weighted network which is a good correlation to a human's subject reaction to noise. The EPA has identified a 24-hour average exposure level of 70 dBA as the level of environmental noise which will prevent any measurable hearing loss over a lifetime. Likewise, levels of 55 dBA outdoors and 45 dBA indoors are identified as preventing activity interference and annoyance. 55 dBA is generally recognized as a level below which no public health or safety risks to the general population would be anticipated to occur. OHVs generate, on average, between 75 and 97 dBA at a distance of 50 feet. Decibel output can vary widely between different types of OHVs depending on types of engines, size, and throttle position. For example, a small 2-stroke gasoline engine on an accelerating motorcycle can emit much higher levels of noise than a 4-stroke gasoline motorcycle or passenger car engine many times larger. UTVs or side-by-sides are often louder than much larger SUVs or trucks. Likewise, diesel trucks can often be much louder than similarly sized gasoline powered vehicles (California Department of Parks and Recreation 2005).

In general, OHV activity, and therefore, noise levels on the open routes within the TMA would be expected to increase over time with anticipated increases in visitation. However, this increase would likely be attributable to a general population increase, as seen in recent years (United States Census Bureau 2023), and not directly tied to the BLM's decision. Average noise levels in the TMA would be anticipated to remain the same as current levels in any proposed alternative. Although it is possible that route closures could lead to an increase in noise levels near routes that remain open, noise levels near routes that are designated as closed would likely decrease. When added together, sounds from sources with similar magnitudes would produce a sound 3dBA greater than a single source due to logarithmic scaling. A 10 dBA increase above background levels is generally accepted as sufficient to cause noise pollution (EPA 1974). Depending on the magnitude of increased activity on the open routes in the TMA, this could eventually produce temporary and localized increases of 10 dBA or greater above background levels due to passing vehicles. Temporary, localized increases in noise would not be anticipated to exceed the 24-hour thresholds established by EPA. It is important to note that sound from OHV usage is already occurring within the TMA; this action is not anticipated to change the number of vehicles that would generate noise (see Section 3.1.1). At the time of this analysis, there are no available data to quantify the magnitude of an increase or decrease in noise related to any of the alternatives, as the BLM is not required to monitor traffic noise levels within the TMA. However, TMP implementation activities (Appendix H) that could minimize impacts to the soundscape include limiting equipment idling time, using noise dampening technology, and proper maintenance of equipment. These effects would occur over longer timeframes.

**A.18 AIB-18 (BIG GAME AND UPLAND GAME)**

*How would the route network alternatives impact big game and upland game species?*

The analysis area for big game and upland game birds is the San Rafael North and San Rafael South desert bighorn sheep hunting units because they fully encompass the boundaries of the TMA, and the boundaries of all other big game and upland game species within the TMA. The temporal scope of analysis is 20 years (see Section 3.1.1). The analysis area includes the San Rafael Swell Recreation Area in which the Dingell Act calls for the protection, conservation, and enhancement of its natural, wildlife, and ecological resources.

Table Appx - 24 summarizes the habitats specific to each big game and upland game bird species present in the TMA.

**Table Appx - 24: Summary of Big Game and Upland Game habitats**

Species	Habitat Description
<b>Big Game</b>	
Desert bighorn sheep ( <i>Ovis canadensis nelsoni</i> )	Desert bighorn sheep habitat makes up approximately 36% of the TMA, approximately 70% of that s within designated wilderness areas, where no OHV use occurs, and no routes are proposed to be designated.
Mule deer ( <i>Odocoileus hemionus</i> )	Mule deer are a native species found throughout the TMA and the state of Utah. They are more populous in shrublands and areas of rough, broken terrain with abundant browse and cover (BLM 2008d). Mule deer habitat found primarily along the river corridor's, make up approximately 12% of the TMA and is primarily year-round use.
Pronghorn ( <i>Antilocapra americana</i> )	The topography of most occupied habitat for pronghorn is characterized by large expanses of open, rolling, or flat terrain. Pronghorn primarily inhabit grasslands and shrub steppe biomes with succulent forb vegetation and available water (UDWR 2017). RMP designated year-long crucial habitat for pronghorn is found within the TMA, making up 35% of the habitat found within the office. Approximately 58% of the TMA is pronghorn habitat and 27% of the pronghorn habitat within the TMA is within designated wilderness boundaries.
Rocky Mountain Elk ( <i>Cervus canadensis nelsoni</i> )	Within the TMA, small sections of winter habitat exist along the western and southwestern boundary (UDWR 2023a). Rocky Mountain elk habitat makes up approximately 9% of the TMA.
<b>Upland Game</b>	
Chukar ( <i>Alectoris chukar</i> )	Chukar preferred habitats include areas with steep, rocky, semi-arid slopes often alongside vegetation such as rabbitbrush and sagebrush. Chukar habitat makes up approximately 2% of the TMA.
Wild Turkey ( <i>Melegris gallopavo</i> )	Suitable habitat for the Wild Turkey varies but is typically forested with abundant grasses and forbs and often near water (UDWR 2023b). There is limited amount of Wild Turkey habitat within the TMA. Wild Turkey habitat can be found within less than 1% of the TMA.

For more detailed information on big game and upland game and their habitats, see the “Wildlife” section of the 2008 Price Proposed RMP/EIS (BLM 2008d, pages 3-51 to 3-59), the “Fish and Wildlife” section of the 2008 Richfield Proposed RMP/EIS (BLM 2008f, pages 3-70 to 3-77), the Utah Wild Turkey Management Plan (UDWR 2023b), the Utah Upland Game Management Plan (UDWR 2022b), the Utah Statewide Elk Management Plan (UDWR 2022a), the Utah Pronghorn Statewide Management Plan (UDWR 2017), the Utah Mule Deer Statewide Management Plan (UDWR 2019b), the Utah Bighorn Sheep Management Plan (UDWR 2018), and NatureServe Explorer (NSE 2024).

Public visitation and route use levels within the TMA vary by season. High-visitation months coincide with the spring fawning, lambing, and calving, and nesting and fledging. Human activity such as public route use, sign installation, route maintenance, roadside parking, and passing results in big game and upland game birds habitat avoidance and abandonment, daily movement interference, increased physical stress that can result in decreased health and parturition, and increased vehicle collisions resulting in injury or mortality (Ouren et al. 2007, Ortega 2012). Human activities can also cause disturbance of upland game birds, interfering with courtship, nesting, brood-rearing, or fledging activities. Big game and upland game birds avoid mountain biking and motorized vehicles (Naidoo and Burton 2020). Route use in riparian areas is of particular concern for big game and upland game birds because of the importance of those habitats to the species. Extreme weather such as drought, extreme heat or cold, or heavy snowfall can exacerbate these effects. Route networks with open or limited designations can perpetuate OHV use-related effects. Closed designations eliminate the OHV effects.

The nature of the impacts of Alternatives A through E are the same as previously described. TMP implementation activities (Appendix H) that could remove, crush, or dust forage or habitat of big game and upland game species include route maintenance (e.g., surface and ditch blading.), reclamation (e.g., raking), and sign placement (e.g., digging post holes). Game could be affected by the noise of the maintenance equipment. These effects would occur in very short time frames (estimated to be one to four days' worth of work, though it may be longer for longer routes). TMP implementation activities (Appendix H) that could minimize impacts to big game and upland game and their habitats include sign placement directing OHVs to routes that are less disruptive to habitat, maintenance of existing routes to repair route drainage and avoid users driving around washed-out areas, enforcement of the route network, monitoring of route effects, and reclamation of routes as appropriate. These effects would occur over longer timeframes.

Table Appx - 25 shows the difference in the magnitude of the impacts between the alternatives by calculating the miles of OHV-Open or OHV-Limited routes for each alternative within the habitats. Additionally, Table Appx - 26 shows the difference in the magnitude of effects to big game between the alternatives by calculating the acres of habitat impacted by OHV-Open or OHV-Limited routes with species-specific analysis buffers. For Rocky Mountain elk, mule deer, and pronghorn a 330-meter buffer was applied, and for desert bighorn sheep the buffer was 360 meters. Riparian areas, which are particularly important for most wildlife species, are analyzed in Section 3.3.8.

**Table Appx - 25: Miles of OHV-Open and OHV-Limited Routes by Alternative within Potential Big Game and Upland Game Birds Habitat**

Species	Acres of Potential Habitat in TMA	Alternative A (miles)	Alternative B (miles)	Alternative C (miles)	Alternative D (miles)	Alternative E (miles)
<b>Big Game</b>						
Desert bighorn sheep	476,377	426	355	470	584	437
Mule deer	152,001	182	131	232	303	190
Pronghorn	754,077	901	784	1108	1375	957
Rocky Mountain elk	121,101	144	97	150	192	135
<b>Upland Game</b>						
Chukar	29,711	35	11	37	44	21
Wild Turkey	6,026	9	6	11	14	8

**Table Appx - 26: Acres of Big Game Habitat Impacted by OHV-Open and OHV-Limited Routes by Alternative**

Species	Acres of Potential Habitat in TMA	Alternative A (acres)	Alternative B (acres)	Alternative C (acres)	Alternative D (acres)	Alternative E (acres)
<b>Big Game</b>						
Desert bighorn sheep	476,377	96,339	83,798	101,965	115,302	97,410
Mule deer	152,001	42,463	32,251	49,263	61,317	42,587
Pronghorn	757,077	202,434	179,588	229,257	280,426	213,955
Rocky Mountain elk	121,101	33,562	24,473	35,069	41,672	31,958

The past, present and foreseeable trends and activities listed in Section 3.2 that occur in the San Rafael North and San Rafael South desert bighorn sheep hunting units accumulate human activity-related effects to big game and upland game birds including disrupted or displaced breeding times and habitats; changes in nesting behavior that result in reduced reproductive success; spatial and temporal changes in foraging activities that result in decreased fitness; altered species richness and community composition; and mortality. The contribution of the alternatives to the cumulative effects is described in Table Appx - 25.

Only routes which physically exist on the ground (open or closed) were evaluated for this plan, because the alternatives would not redistribute recreation from the high use areas to the low use areas, and because none of the alternatives would authorize the construction of routes, authorize use of a route that has not already been subject to ongoing use even if such use was unauthorized, add or remove access to major area destinations, authorize events, create or remove an attraction that would draw new visitors, or authorize an action (such as construction) that would involve worker access. Big game and upland game are not analyzed further because out of 476,000 acres of habitat for desert bighorn sheep, the alternatives have the potential to affect between 83,798 and 115,302 acres. However, BLM determined that 70% of Desert bighorn sheep habitat overlaps wilderness areas. Of the 152 thousand acres of Mule deer habitat the alternatives have the potential to affect between 32,251 and 61,317 acres. Affected pronghorn habitat varies between 179,588 and 280,426 out of 757,000 acres. Of the 121 thousand acres of Rocky Mountain elk habitat the alternatives have the potential to affect between 24,273 and 41,672 acres. The percentage of proportional change between alternatives is 6% to 19% of big game habitat within the TMA affected, dependent on the species. Due to the low change in habitat impacts between alternatives, detailed analysis would not meaningfully inform the decision maker or the public of the effects.

### **A.19 AIB-19 (SENSITIVE WILDLIFE SPECIES)**

*How would the route network alternatives impact BLM Sensitive wildlife species?*

The analysis area for BLM Sensitive wildlife species is the TMA because it is the smallest unit that shows all impacts to species within the TMA and most of the species have small home ranges. The temporal scope of analysis is 20 years (see Section 3.1.1). The analysis area includes the San Rafael Swell Recreation Area in which the Dingell Act calls for the protection, conservation, and enhancement of its natural, wildlife, and ecological resources.

**Table Appx - 27** summarizes the effects specific to each BLM sensitive wildlife species present in the TMA.

**Table Appx - 27: BLM Sensitive Wildlife Species Habitats**

Species	Habitat
<b>Amphibians</b>	
Great Plains toad ( <i>Anaxyrus cognatus</i> )	In Utah, the Great Plains toad is found in floodplains or agriculture habitats where moisture is present. In cold winter months, the Great Plains toad burrows underground and becomes inactive. A USGS Gap Analysis model shows approximately 41 percent of the TMA as containing potential habitat, though occurrences of the Great Plains toad are limited.
<b>Invertebrates</b>	
Western bumble bee ( <i>Bombus occidentalis</i> )	Potential habitat within the TMA is not abundant (Janousek and Graves 2021), and there is little documentation of western bumblebees within the TMA (USFWS Bee Tool). It is estimated that up to 21 percent of the TMA may be Western bumblebee habitat.
<b>Mammals</b>	
Bats	All five BLM sensitive bat species (Big free-tailed bat ( <i>Nyctinomops macrotis</i> ), Fringed myotis ( <i>Myotis thysanodes</i> ), Spotted bat ( <i>Euderma maculatum</i> ), Townsend's big-eared bat ( <i>Corynorhinus townsendii</i> ), and Western red bat ( <i>Lasiurus blossevillei</i> )) are nocturnal insectivores that roost in caves, rock crevices, trees, and mines, and hibernate to some degree during the winter (UDWR 2019a). Individuals forage for insects over desert scrub, sagebrush steppe, montane meadows, and various riparian habitats (UDWR 2019a). The amount of suitable habitats range from less than 1 percent to nearly 99 percent of the TMA between the five species

Further information about these species can be found in the UDWR Wildlife Action Plan 2015-2025 (UDWR 2015), NatureServe Explorer (NSE 2024), UDWR Utah Species Field Guide (UDWR 2024), and BLM Instruction Memorandum No. UT IM-2019-005.

Public visitation and route use levels within the TMP vary by season. High-visitation months coincide with the spring young-rearing and nesting periods. Human activity such as public route use, sign installation, route maintenance, roadside parking, and passing results in mortality and injury (Brooks and Lair 2005, Ouren et al. 2007, Trombulak and Frissell 2000) from collisions with OHVs or the destruction of eggs, nests, and burrows. Inner-ear bleeding can occur in small mammals exposed to OHV-generated noise (Ouren et al. 2007). Human activity can trigger behavioral changes like increased flight and vigilance, and result in the disruption or displacement of other essential behaviors including breeding, foraging, hunting, and predator-avoidance activities (Larson et al. 2016, Ouren et al. 2007, Trombulak and Frissell 2000). Species' responses may range from brief, immediate responses, such as alerting or flushing, to more long-term responses like abandonment of preferred habitat (Kaselloo and Tyson 2004, Ortega 2012). These behavioral changes result in increased expenditures of time and energy towards avoiding humans and decreased expenditures of time and energy towards beneficial activities like foraging or caring for young, ultimately causing declines in abundance and occupancy, reduced reproductive success, and altered species richness and community composition (Larson et al. 2016, Ouren et al. 2007). Non-native species spread can reduce native vegetative cover and change the physical and chemical (e.g., altered and amplified erosion patterns, reduced water infiltration, reduced water quality, reduced soil fertility, and increases in pollutants (Brooks and Lair 2005, Ouren et al. 2007, Trombulak and Frissell 2000)) resulting in decreased native wildlife populations, species richness, and community composition (Larson et al. 2016, Ouren et al. 2007, Trombulak and Frissell 2000). Extreme weather such as drought, extreme heat or cold, or heavy snowfall can exacerbate these effects. Closed designations eliminate the OHV effects. The effects to bats are likely to be small because bats are nocturnal, while the human activities typically occur during the day.

The nature of the impacts of Alternatives A through E are the same as previously described. TMP implementation activities (Appendix H) that could remove, crush, or dust forage or habitat of sensitive wildlife include route maintenance (e.g., surface and ditch blading.), reclamation (e.g., raking), and sign placement (e.g., digging post holes). Wildlife themselves could be affected by the noise of the maintenance equipment. These effects would occur in very short time frames (estimated to be one to four days' worth of work, though it may be longer for longer routes). TMP implementation activities (Appendix H) that could minimize impacts to sensitive wildlife and their habitats include sign placement directing OHVs to routes that are less disruptive to habitat, maintenance of existing routes to repair route drainage and avoid users driving around washed-out areas, enforcement of the route network, monitoring of route effects, and reclamation of routes as appropriate. These effects would occur over longer timeframes.

Table Appx - 28 shows the difference in the magnitude of the impacts between the alternatives by placing a species-specific buffer on the OHV-Open and OHV-Limited roads that intersect the species habitats. Riparian areas, which are particularly important for most wildlife species, are analyzed in Section 3.3.8.

**Table Appx - 28: Acres of BLM Sensitive Wildlife Potential Habitat Within Species-Specific Buffers of OHV-Open and OHV-Limited Routes by Alternative**

Species	Buffer Distance	Acres of Habitat in TMA	Alternative A Area of Impact (Acres)	Alternative B Area of Impact (Acres)	Alternative C Area of Impact (Acres)	Alternative D Area of Impact (Acres)	Alternative E Area of Impact (Acres)
Great Plains toad	100 meters	542,269	49,677	44,155	60,354	62,428	52,703
Western bumblebee	100 meters	270,456	17,441	14,143	19,166	23,093	17,690
Big free-tailed bat	50 meters	1,047,742	40,060	34,646	46,403	55,915	41,411
Fringed myotis	50 meters	1,130,604	43,814	36,442	52,125	63,718	45,642
Spotted bat	50 meters	939,049	33,017	27,537	40,020	49,574	34,902
Townsend's big-eared bat	50 meters	1,296,437	51,109	42,930	61,014	74,748	53,332
Western red bat	50 meters	8,952	232	206	366	499	289

The past, present and foreseeable trends and activities listed in Section 3.2 that are within the TMA accumulate human activity-related effects to BLM sensitive wildlife species including disturbance or displacement; loss of prey species; reduced reproductive success; alterations in species richness and community composition; burrowing, brooding, and foraging habitat; mortality; and habitat degradation or alteration. The contribution of the alternatives to the cumulative effects is described in Table Appx - 28.

Only routes which physically exist on the ground (open or closed) were evaluated for this plan, because the alternatives would not redistribute recreation from the high use areas to the low use areas, and because none of the alternatives would authorize the construction of routes, authorize use of a route that has not already been subject to ongoing use even if such use was unauthorized, add or remove access to major area destinations, authorize events, create or remove an attraction that would draw new visitors, or authorize an action (such as construction) that would involve worker access. Sensitive wildlife and their habitats are not analyzed further because the magnitude of the change to the species from each alternative is minimal. Out of the 1.3 million acres of habitat for Townsend's big-eared bat between 42,930 and 74,748 acres may be affected by the alternatives. Of the 270 thousand acres of western bumblebee habitat, between 14,143 and 23,093 acres may be affected by the alternatives. Affected Big free-tailed bat habitat varies between 34,646 and 55,915 out of over 1 million acres. Out of the 1.13 million acres of Fringed myotis habitat, between 36,442 and 63,718 acres may be affected by the alternatives. Of the 939 thousand

acres of spotted bat habitat, between 27,537 and 49,574 acres may be affected by the alternatives. Townsend's big eared bat affected habitat varies between 42,930 and 74,478 out of nearly 1.3 million acres. Out of the 8,952 acres of Western red bat habitat, between 206 and 499 acres may be affected by the alternatives. The percentage of proportional change between alternatives is 2 to 4 percent dependent on the species. Due to the low change in habitat impacts between alternatives, detailed analysis would not meaningfully inform the decision maker or the public of the effects.

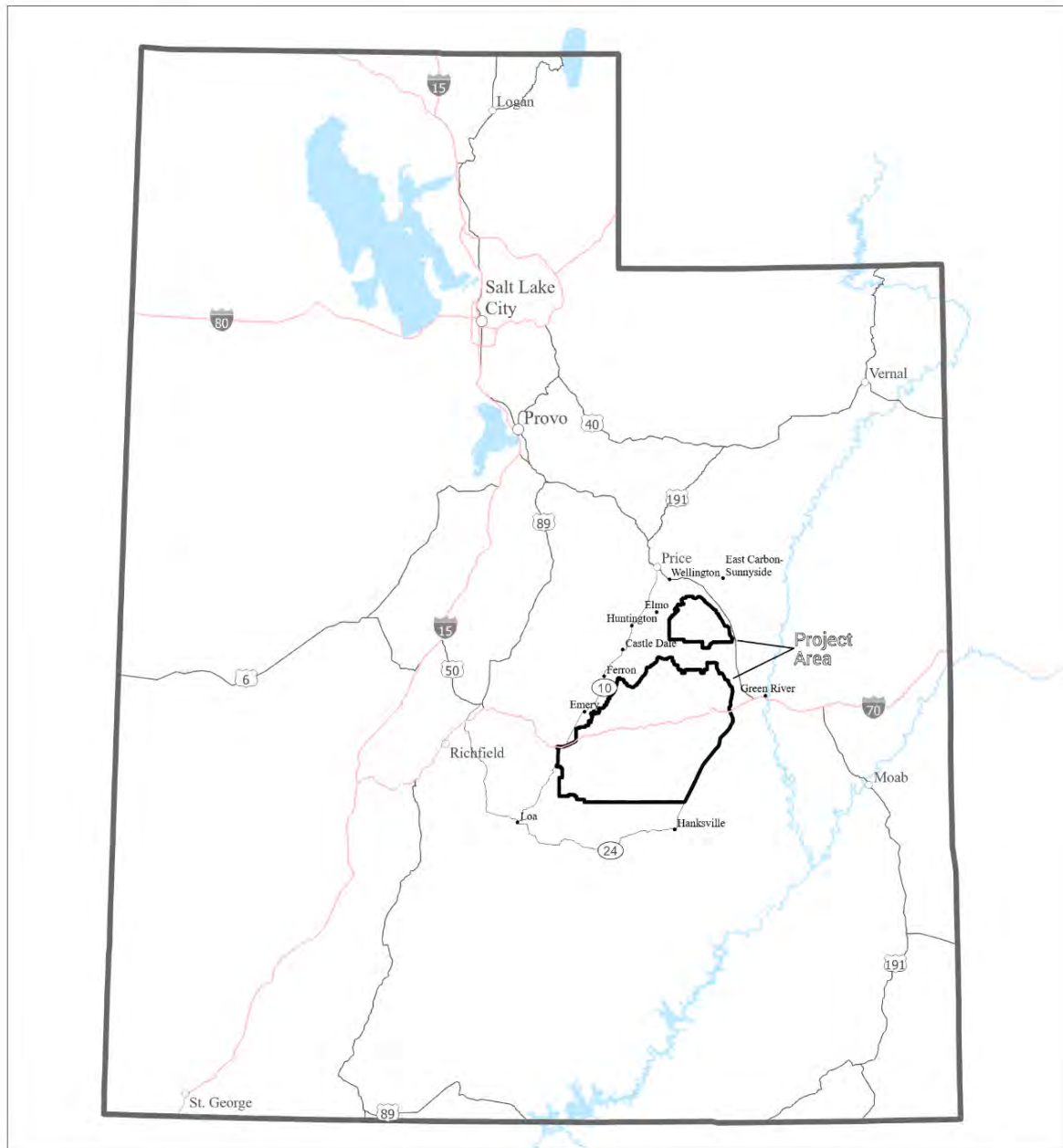
## **APPENDIX B MAPS**

In addition to the provided static maps, an interactive map can be accessed at <https://eplanning.blm.gov/eplanning-ui/project/1500146/510>

## B.1 MAP 1: SAN RAFAEL SWELL TMA



Location Map

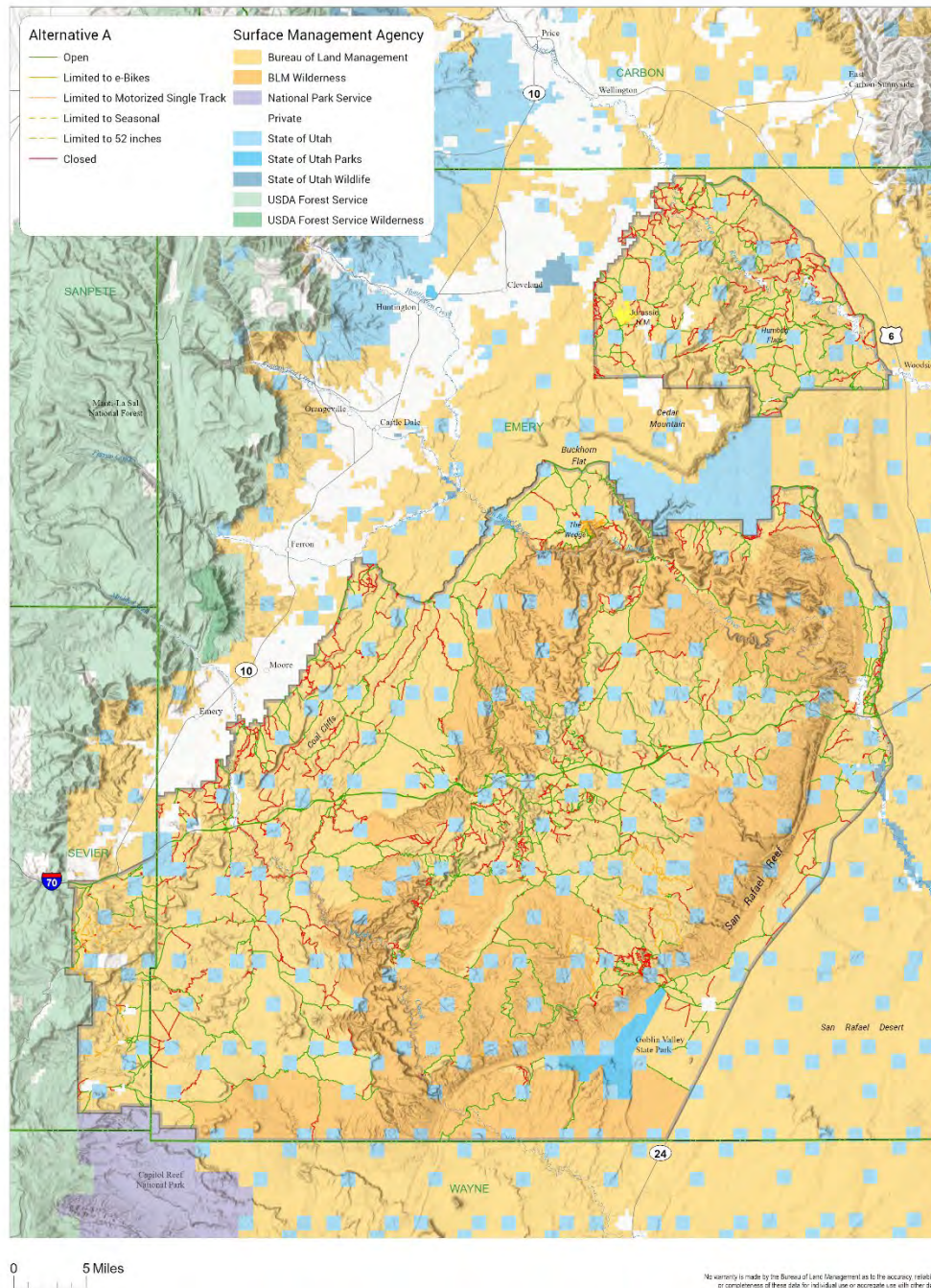


No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.

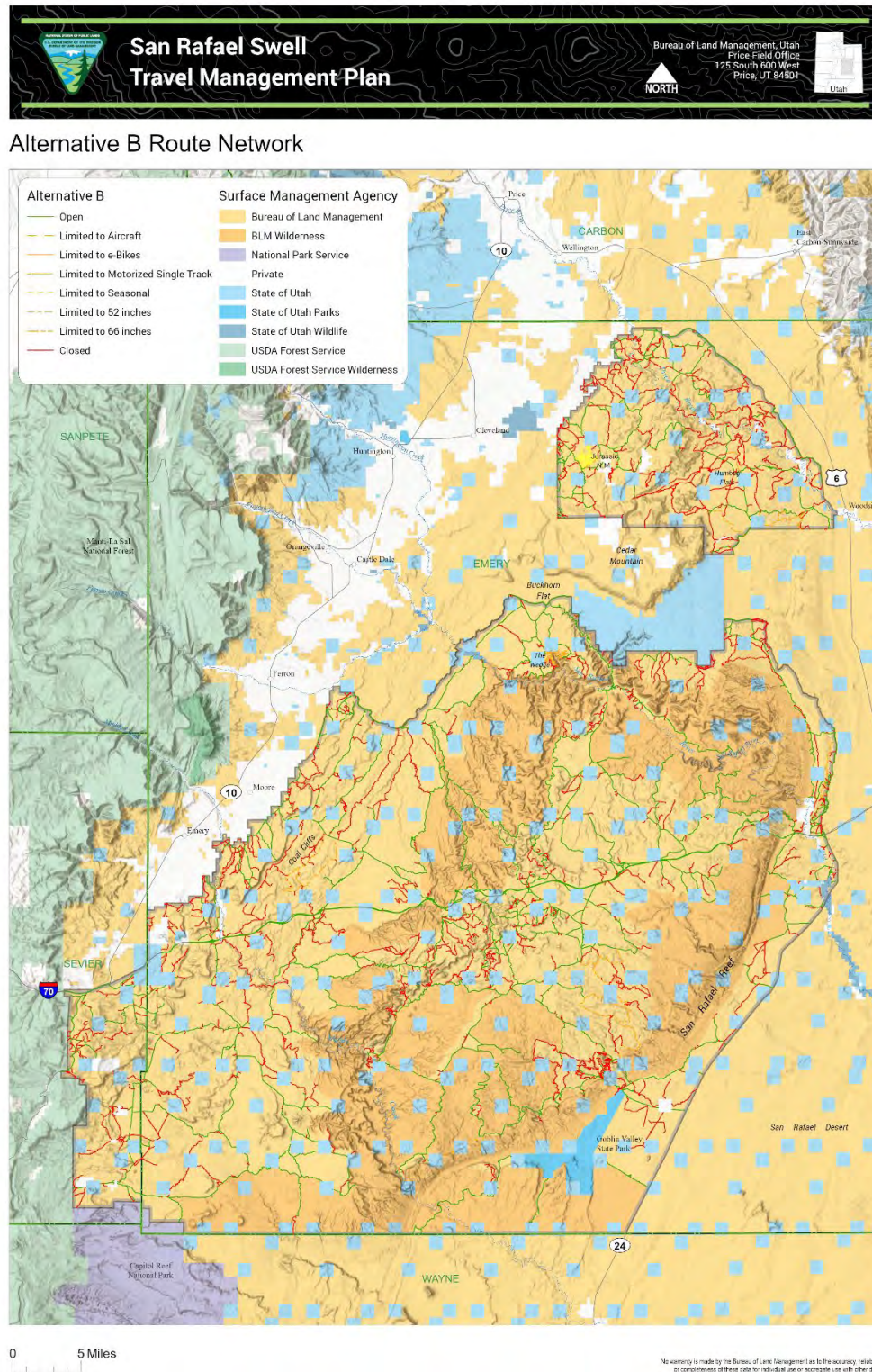
## B.2 MAP 2: ALTERNATIVE A



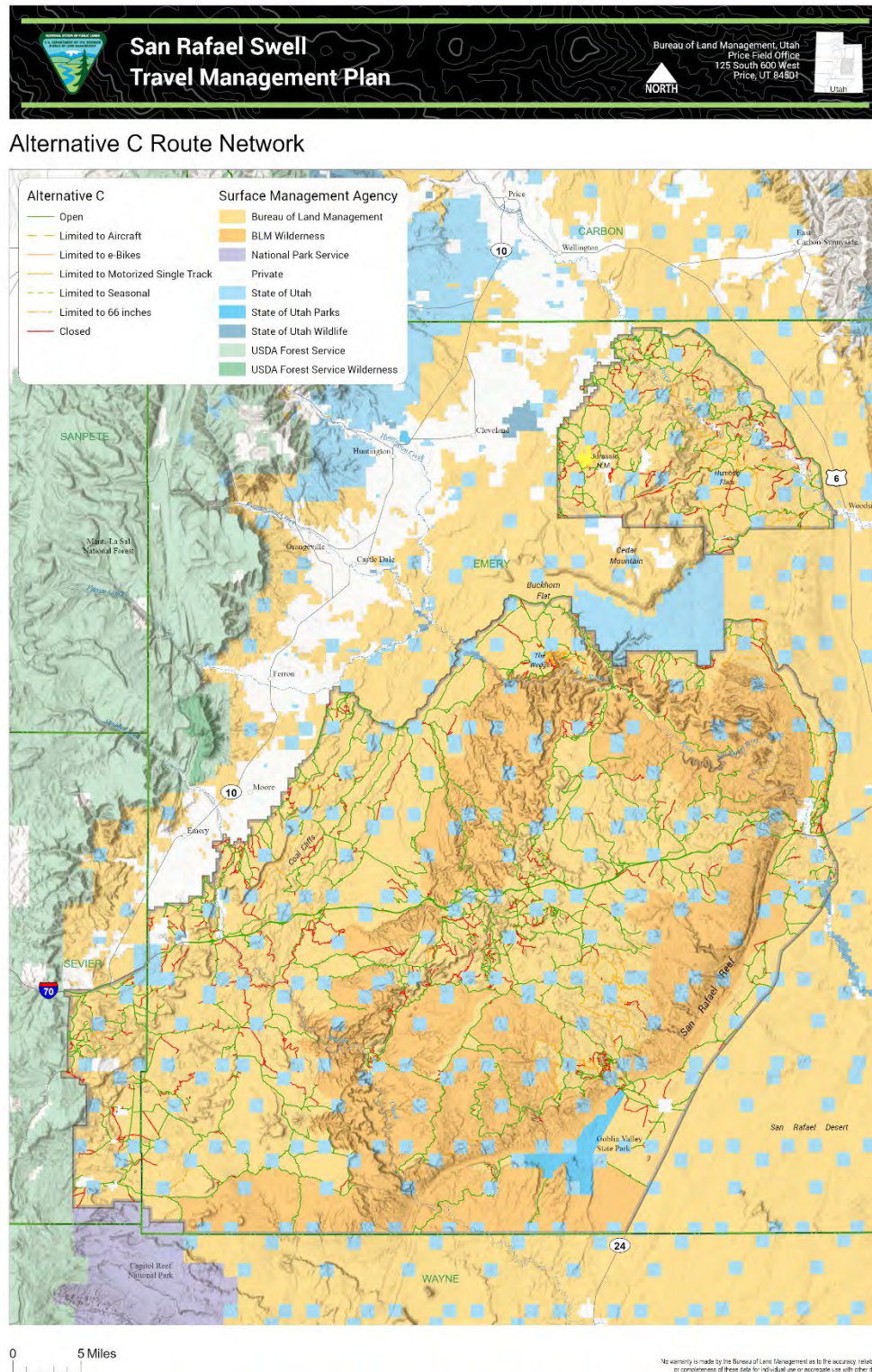
Alternative A Route Network



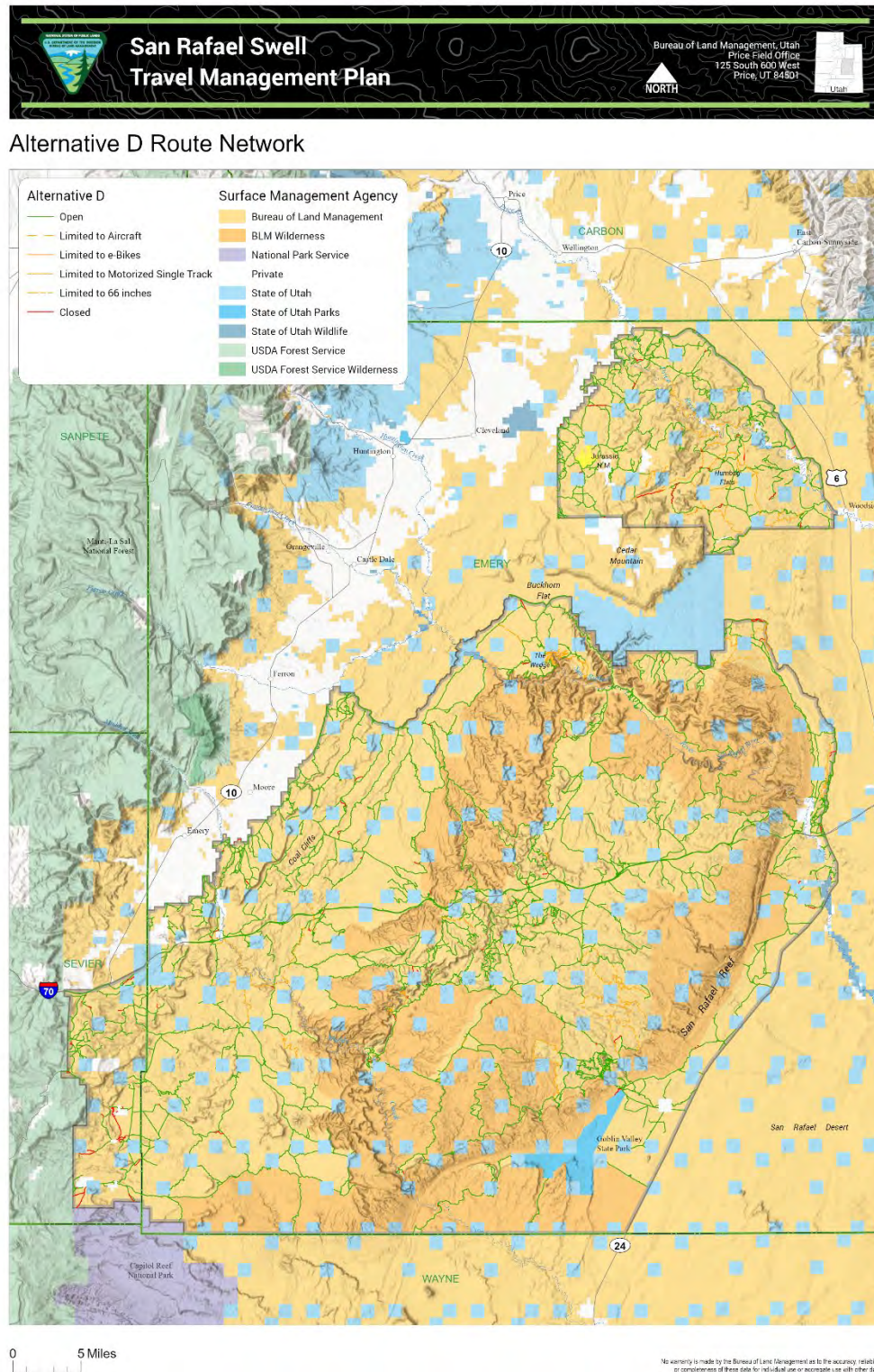
### B.3 MAP 3: ALTERNATIVE B ROUTE NETWORK



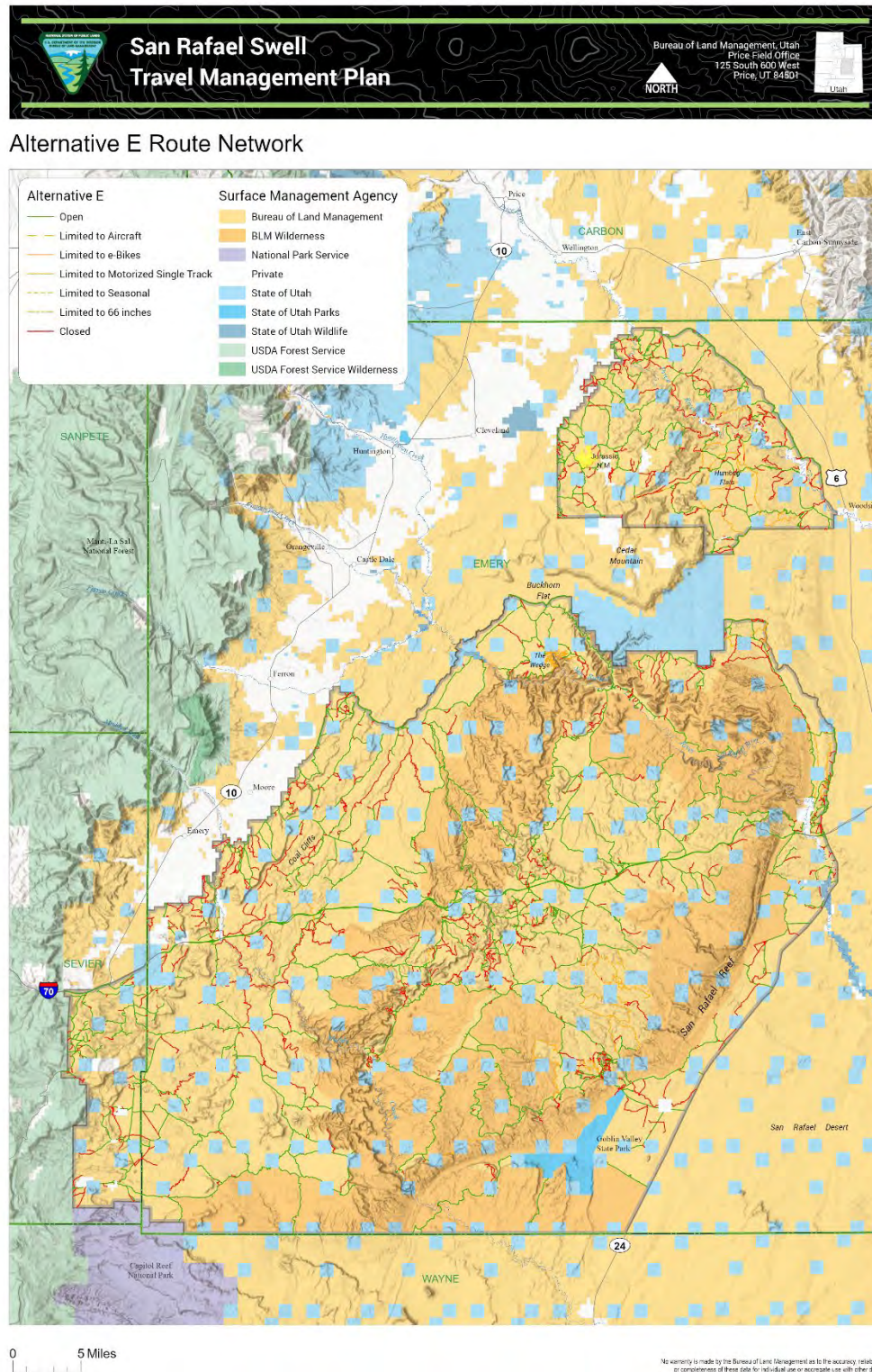
## B.4 MAP 4: ALTERNATIVE C ROUTE NETWORK



## B.5 MAP 5: ALTERNATIVE D ROUTE NETWORK



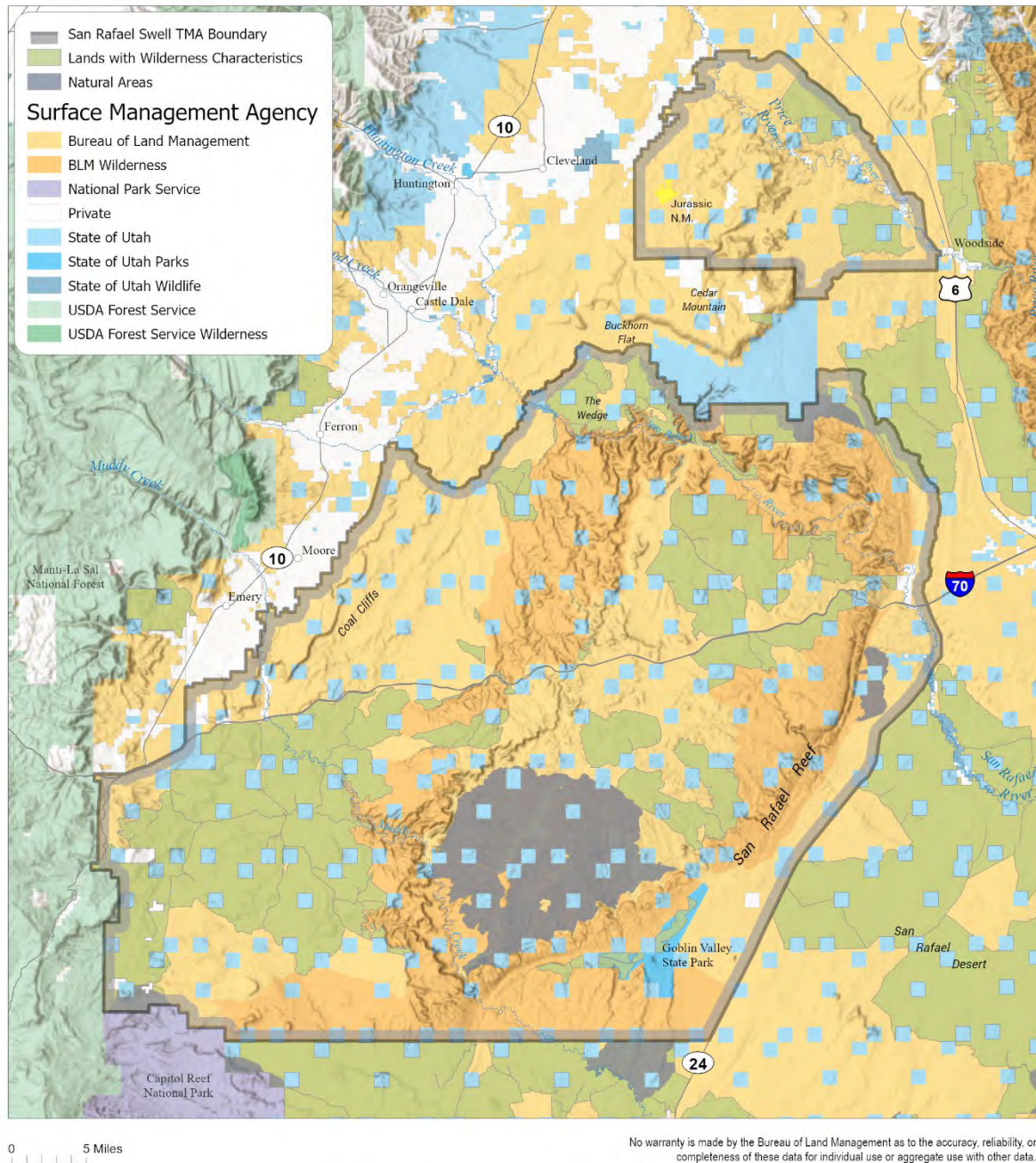
## B.6 MAP 6: ALTERNATIVE E ROUTE NETWORK



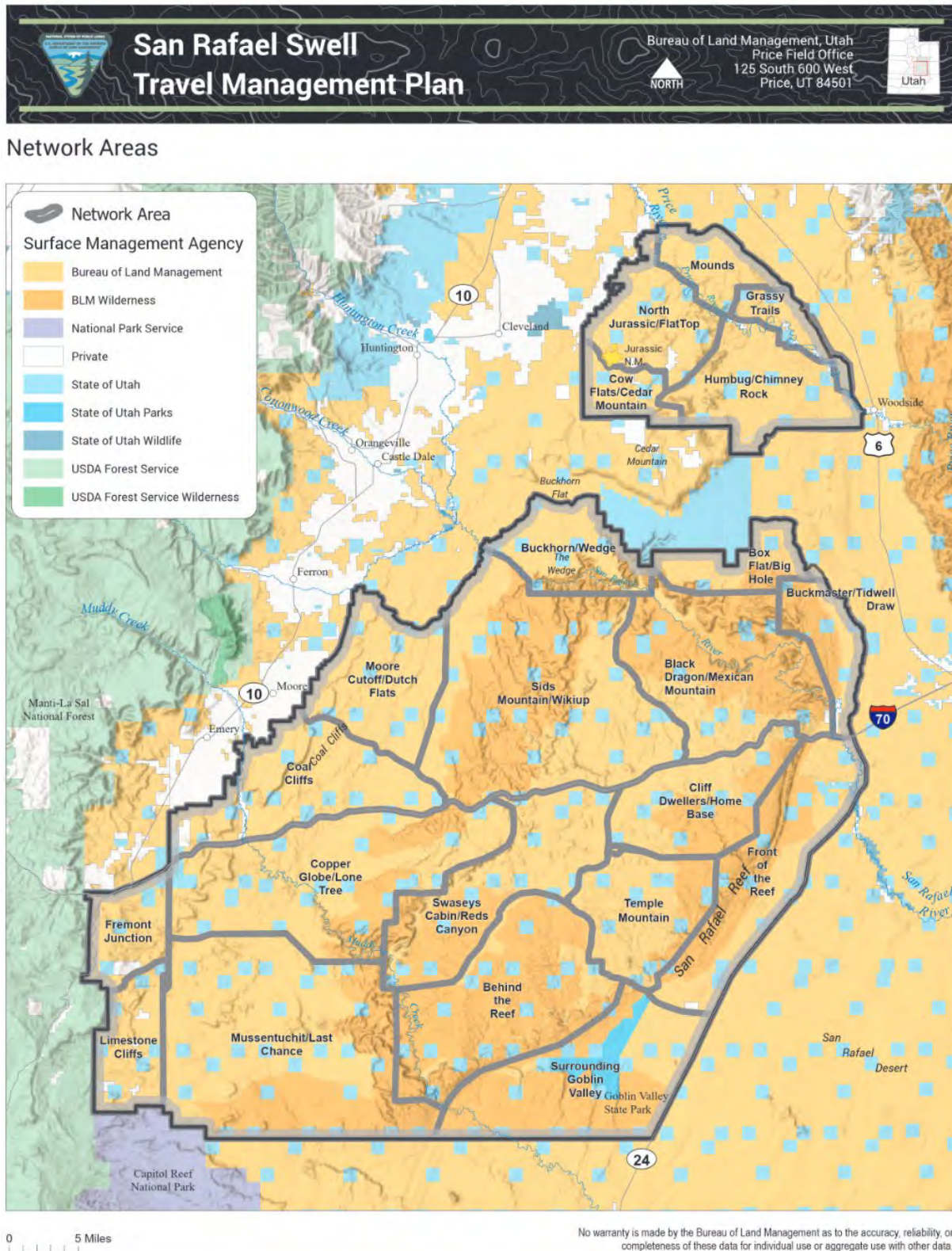
## B.7 MAP 7: LANDS WITH WILDERNESS CHARACTERISTICS AND NATURAL AREAS



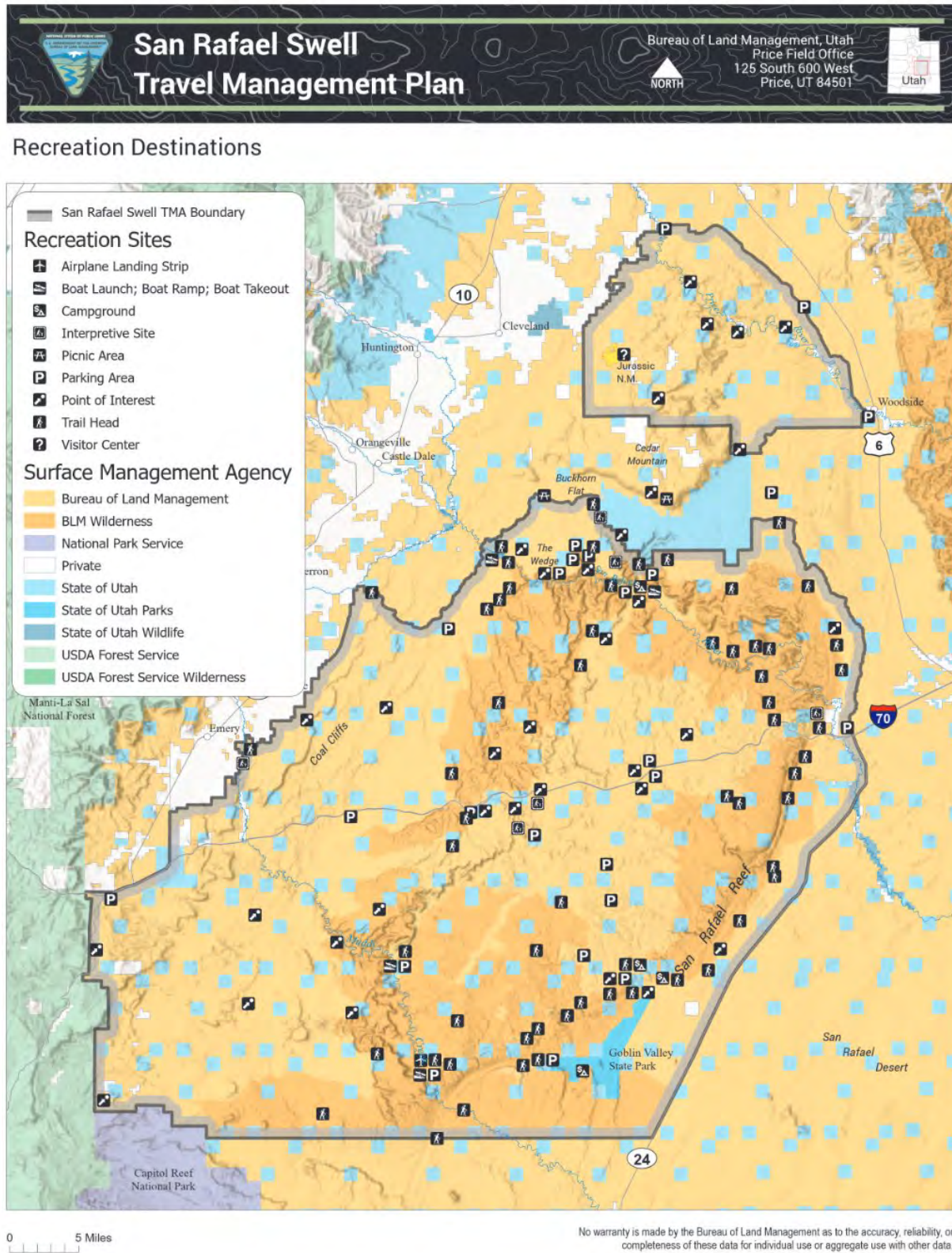
Lands with Wilderness Characteristics and Natural Areas



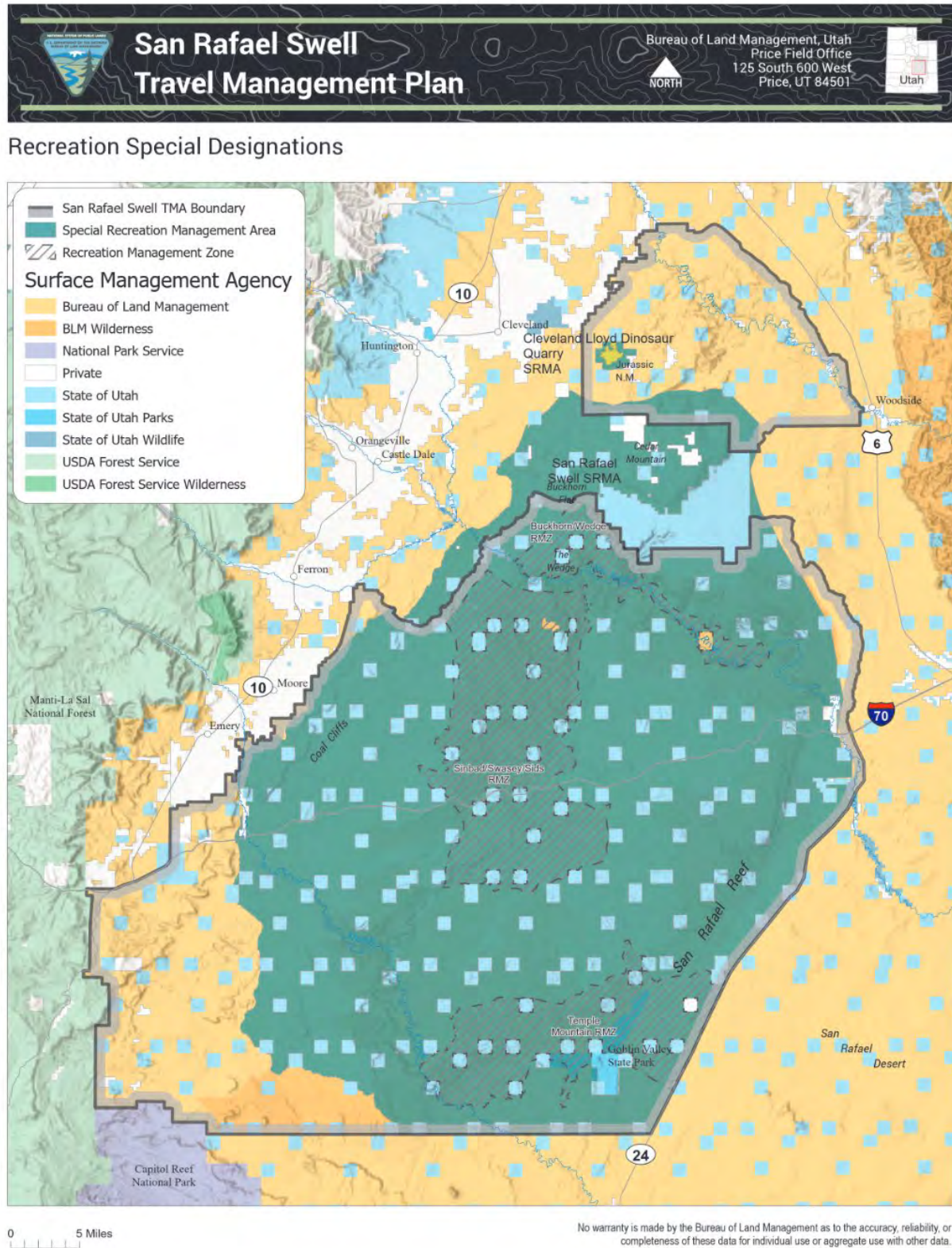
## B.8 MAP 8: ROUTE NETWORK GEOGRAPHIC AREAS



## B.9 MAP 9: RECREATION DESTINATIONS



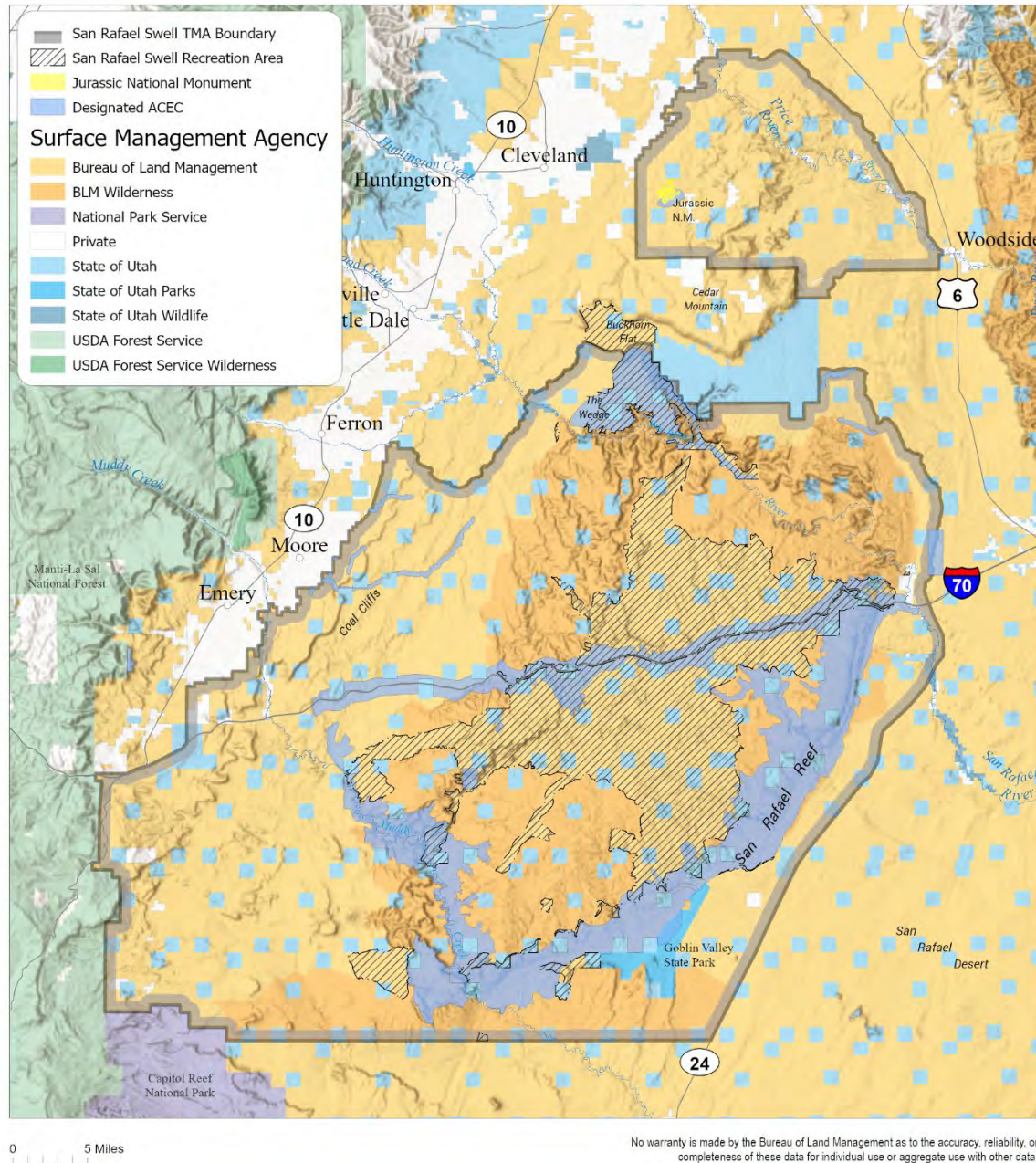
## B.10 MAP 10: RECREATION SPECIAL DESIGNATIONS



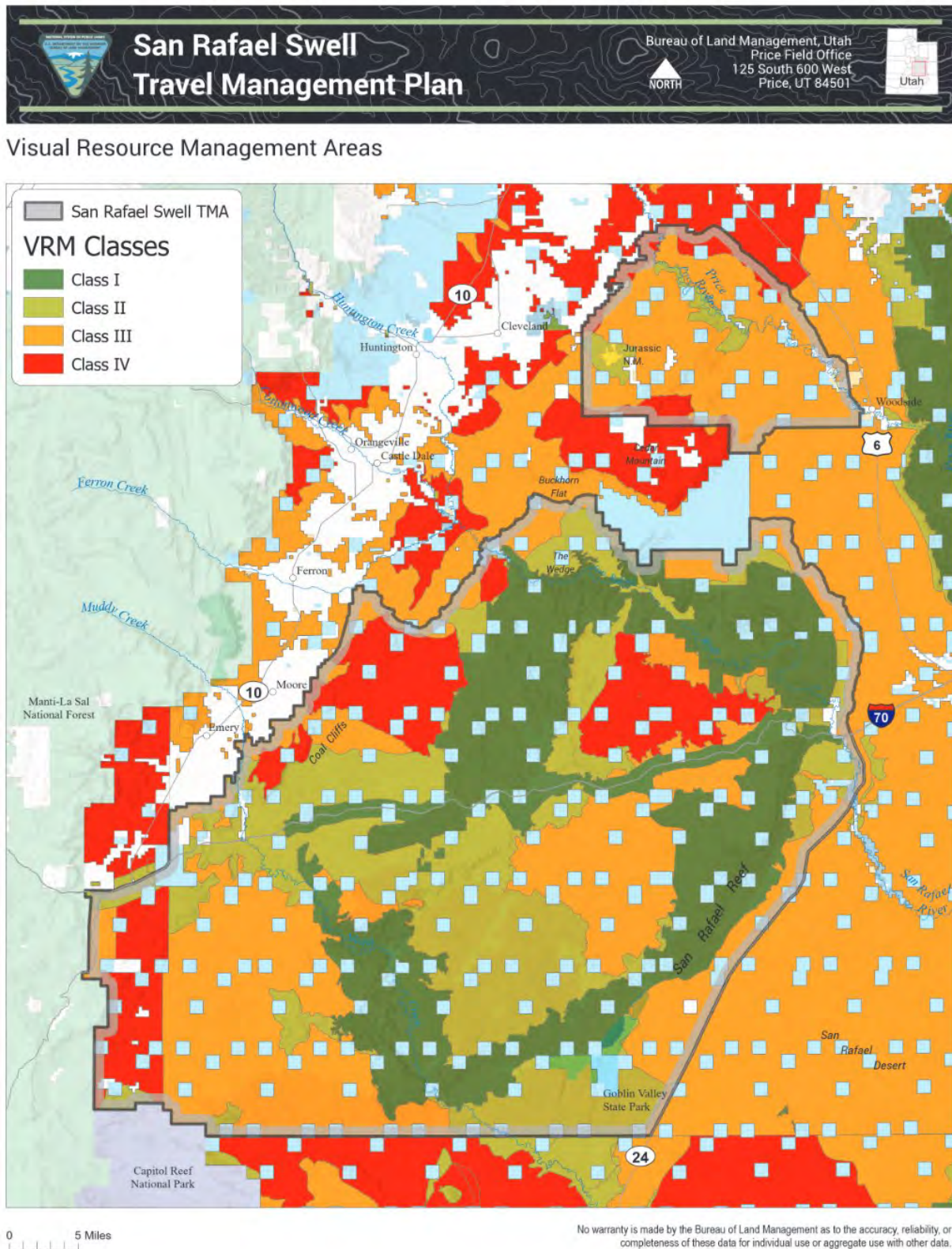
## B.11 MAP 11: ACECS, JURASSIC NATIONAL MONUMENT, AND SAN RAFAEL SWELL RECREATION AREA



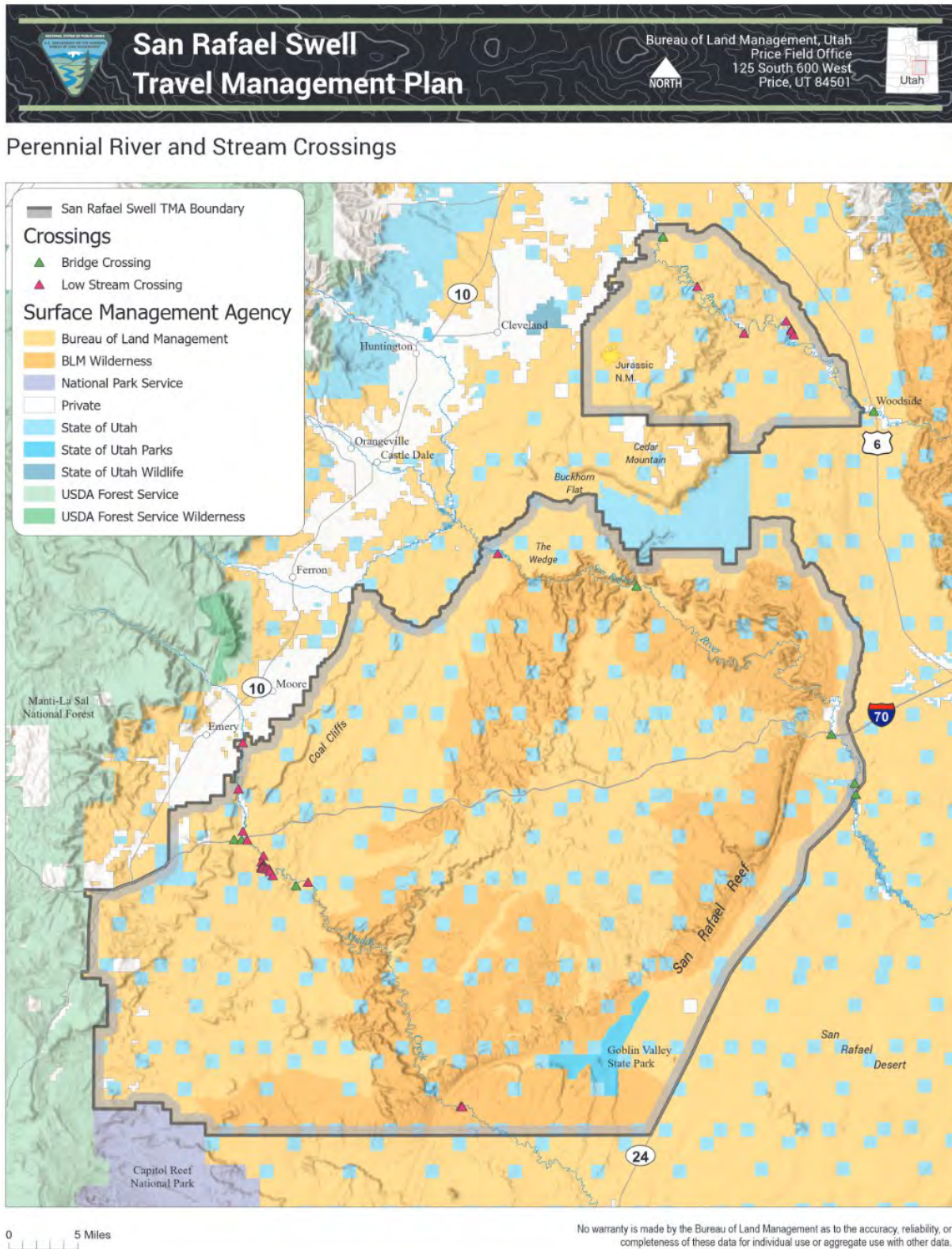
San Rafael Swell Recreation Area, Jurassic National Monument, and ACECs



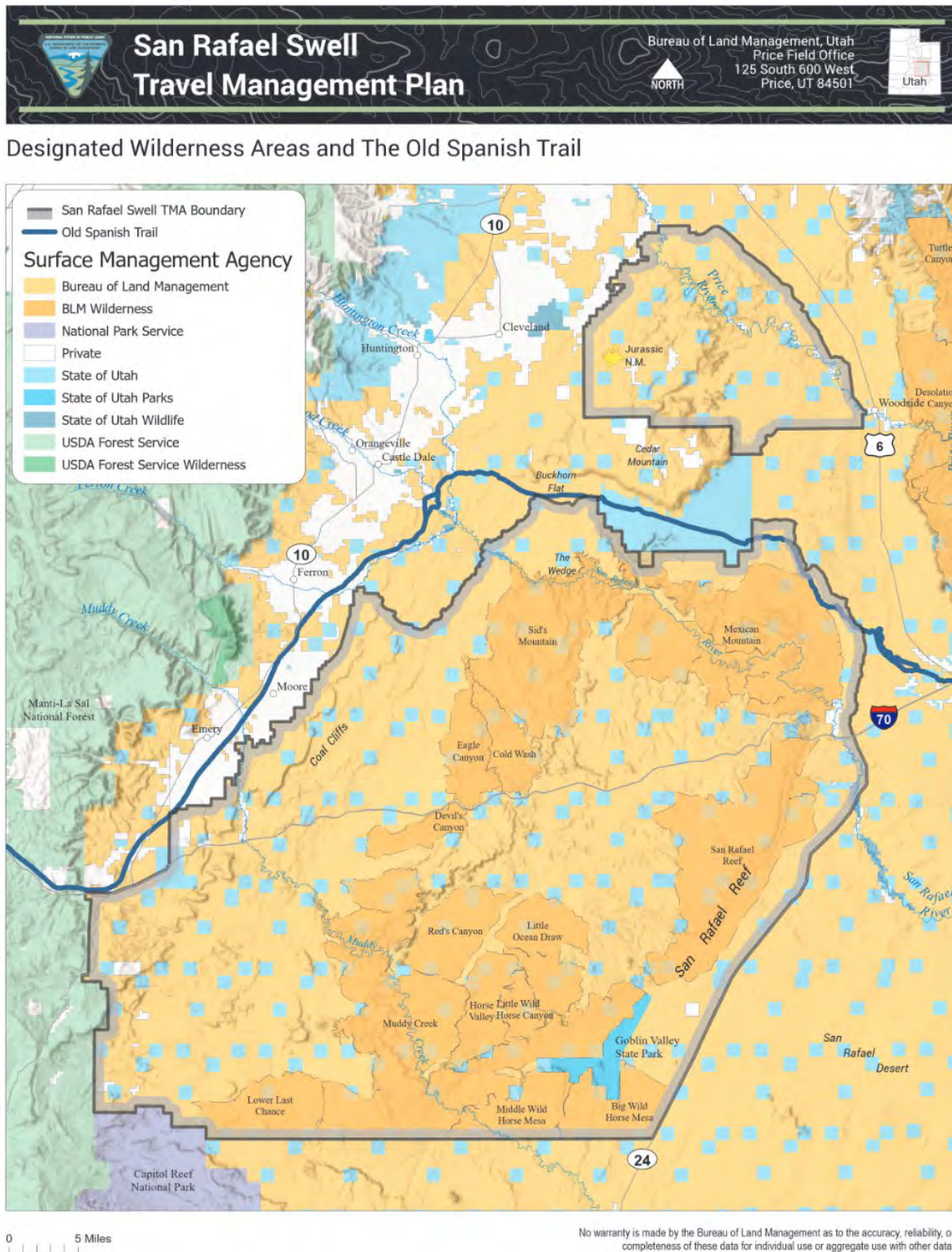
## B.12 MAP 12: VISUAL RESOURCE MANAGEMENT AREAS



## B.13 MAP 13: PERENNIAL RIVER AND STREAM CROSSINGS



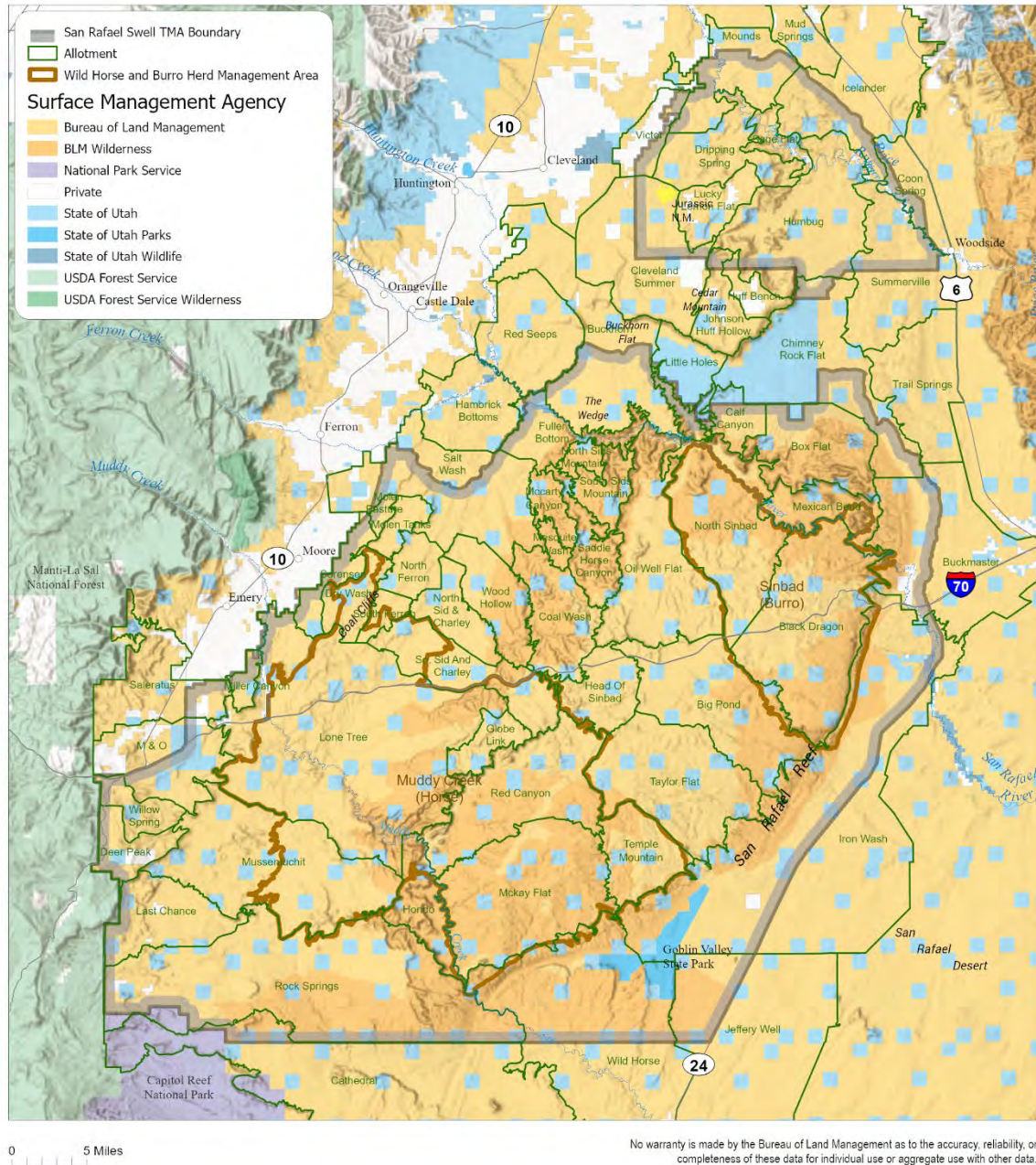
## B.14 MAP 14: DESIGNATED WILDERNESS AREAS AND THE OLD SPANISH NATIONAL HISTORIC TRAIL



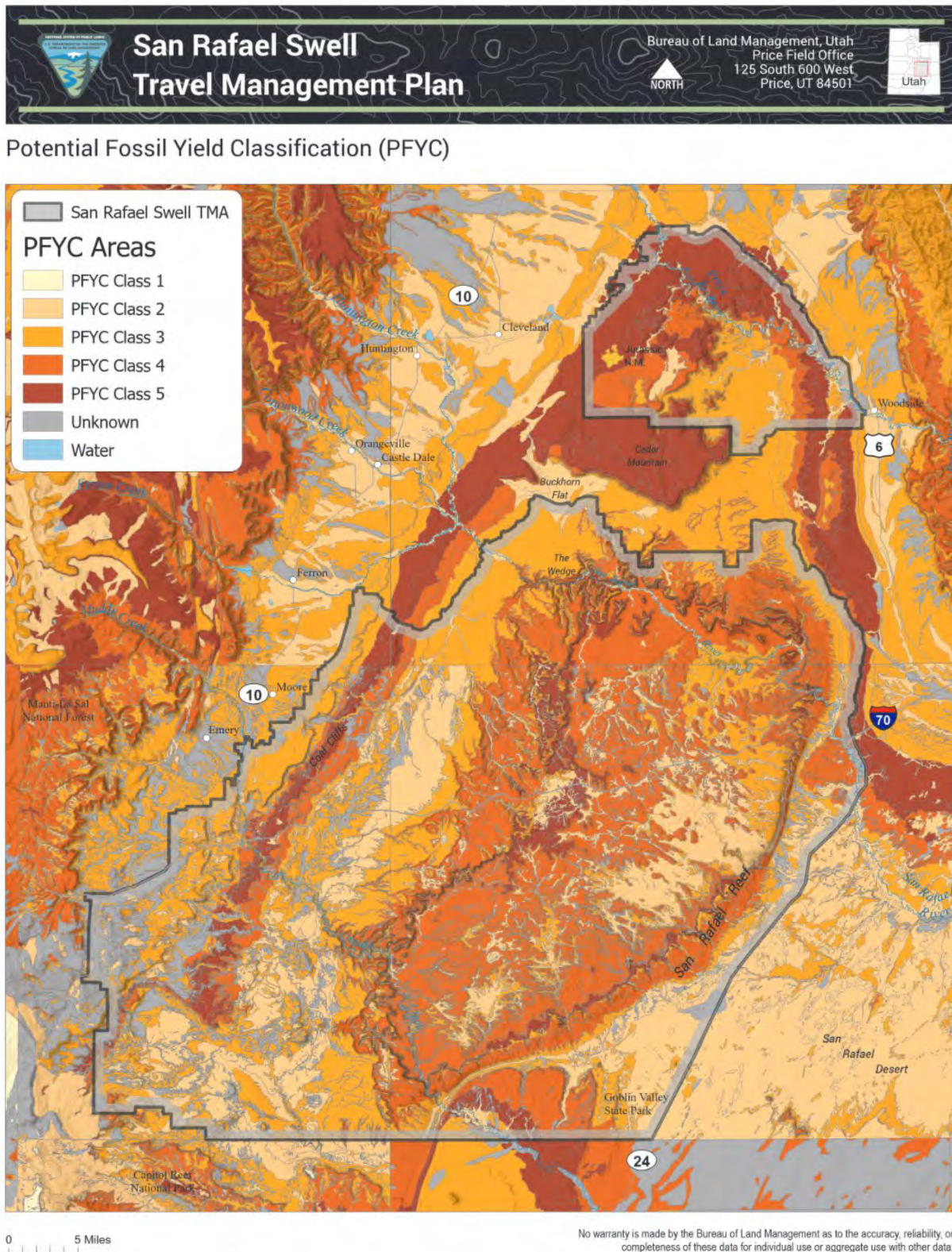
## B.15 MAP 15: GRAZING ALLOTMENTS AND WILD HORSE AND BURRO HERD MANAGEMENT AREAS



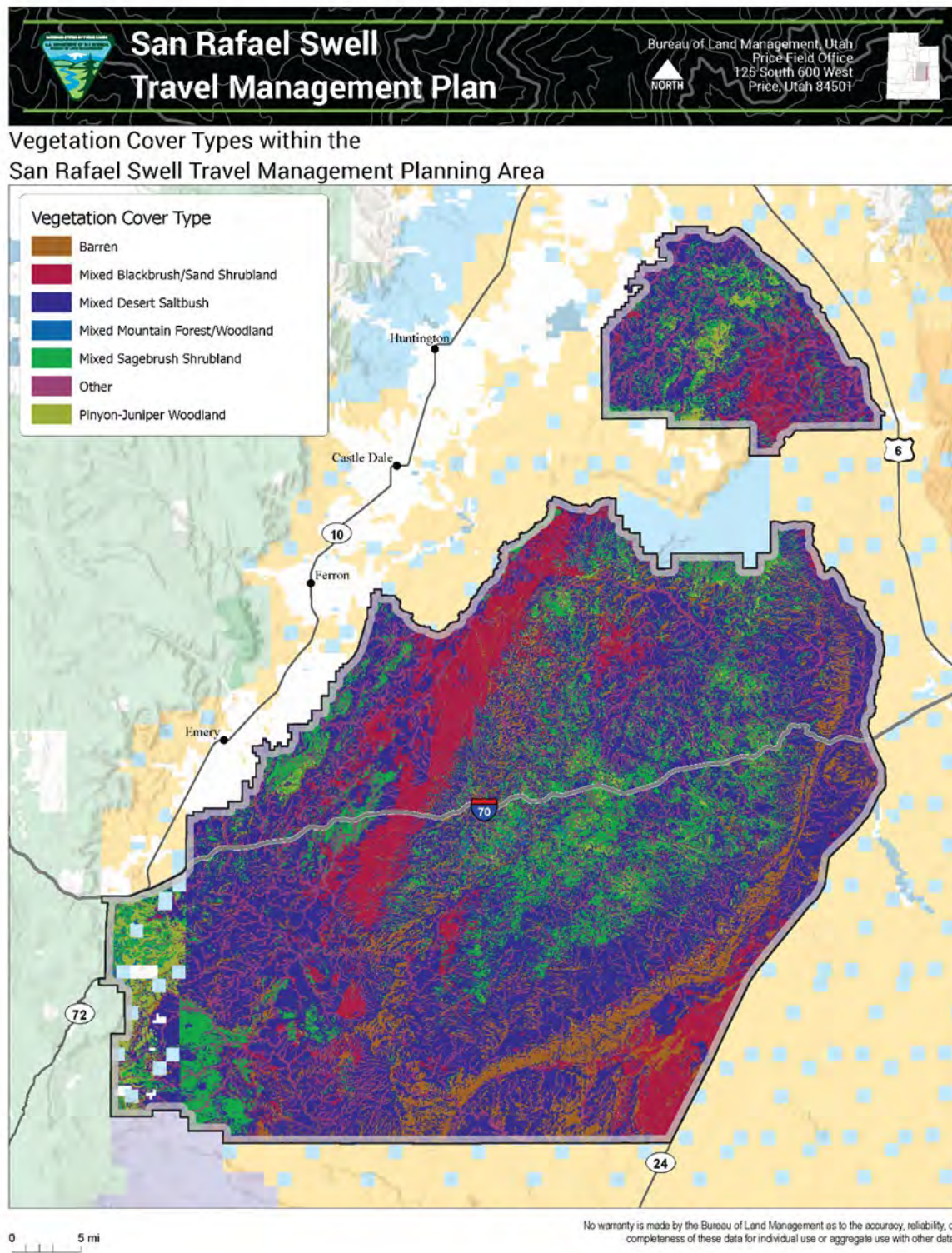
### Livestock Grazing Allotments and Wild Horse and Burro



## B.16 MAP 16: POTENTIAL FOSSIL YIELD CLASSIFICATION AREAS



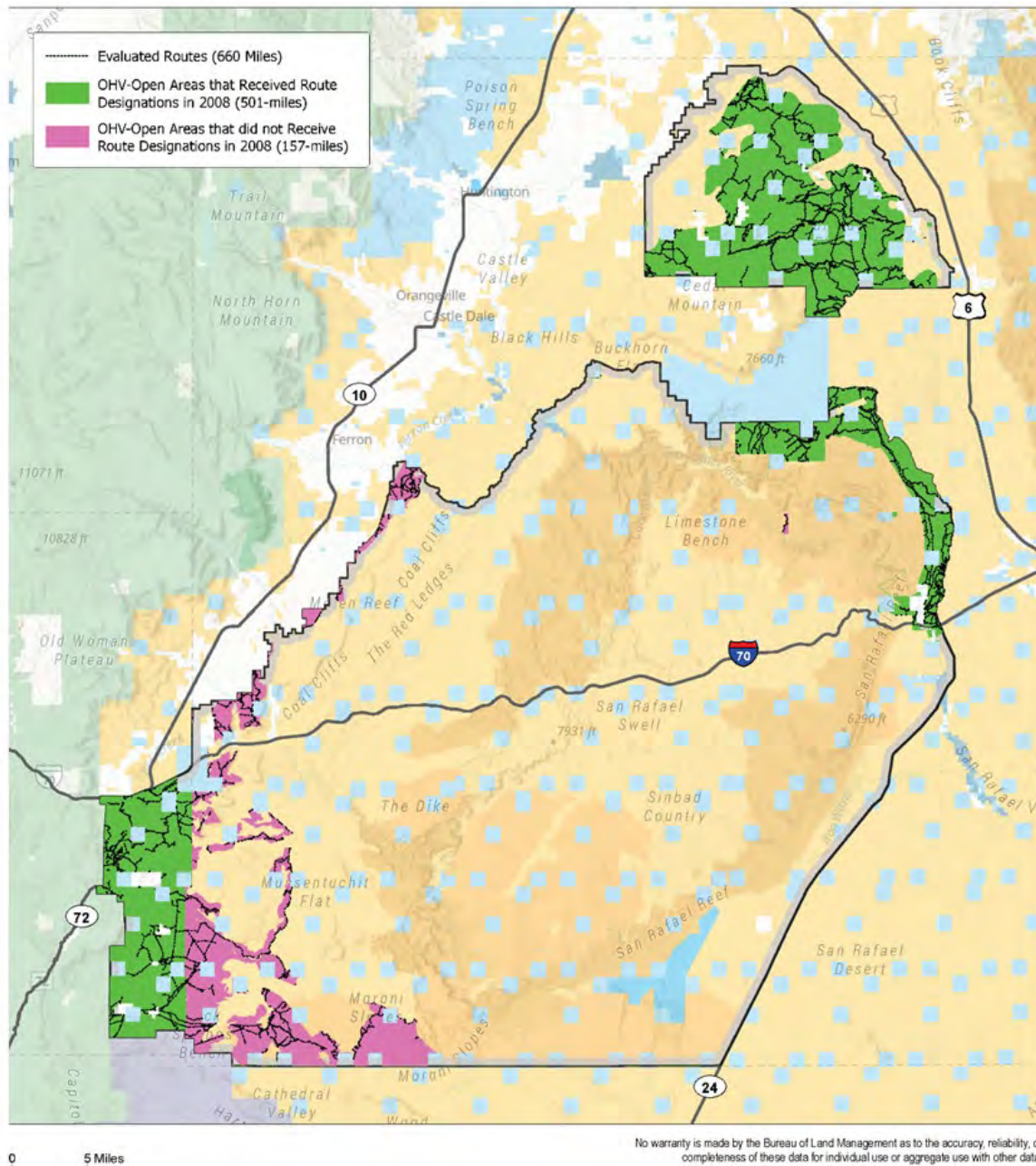
## B.17 MAP 17: VEGETATION COVER TYPES



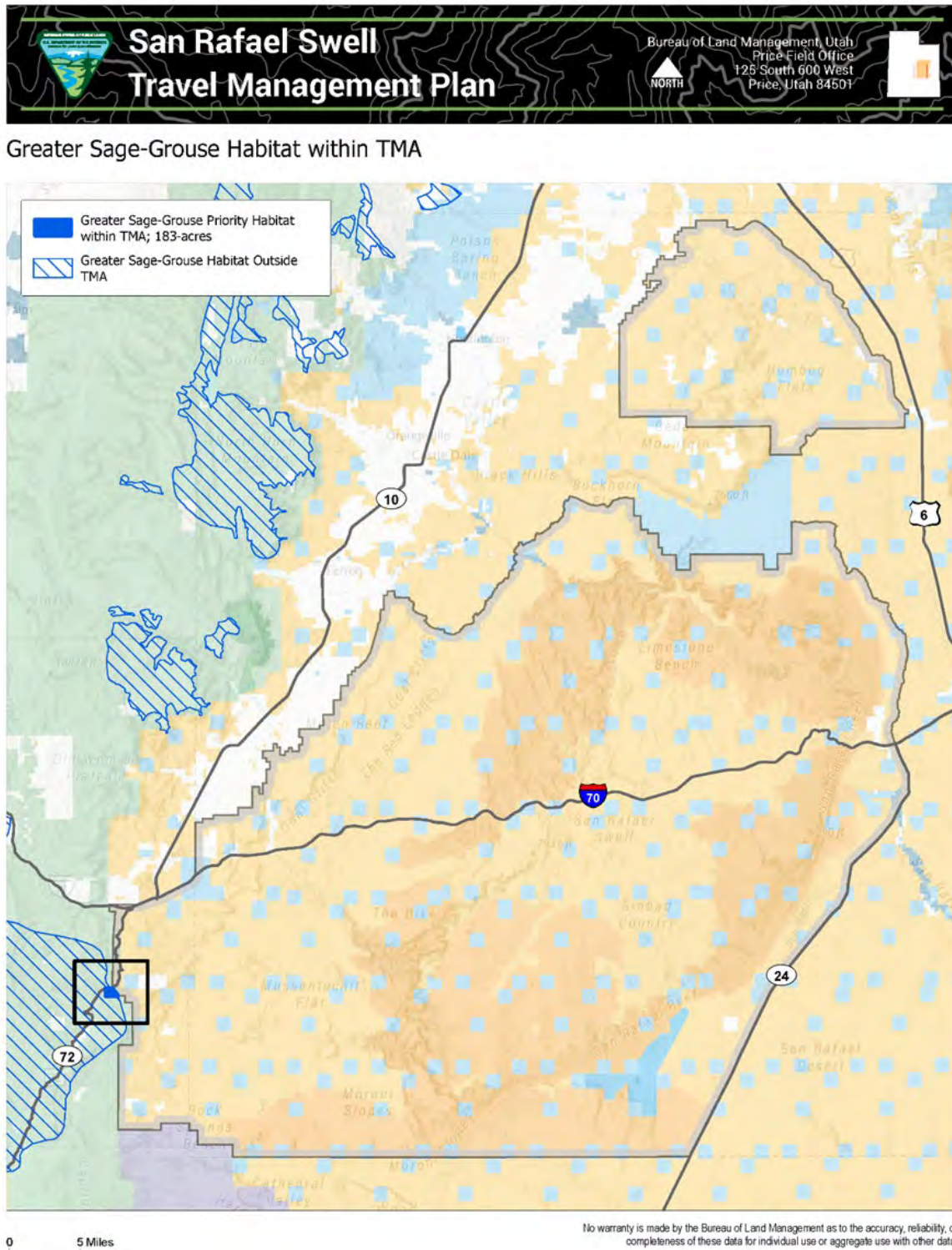
# **B.18 MAP 18: EVALUATED ROUTES WITHIN AREAS THAT WERE OHV-OPEN PRIOR TO 2008**



Evaluated Routes within Areas that were OHV-Open Prior to 2008



## B.19 MAP 19: GREATER SAGE-GROUSE PRIORITY HABITAT WITHIN TMA



## APPENDIX C ROUTE NETWORK GEOGRAPHIC AREAS

During the review process in 2023, the BLM broke the entire TMP planning area into 22 route network geographic areas. BLM created these areas based on natural separating features on the ground such as topography, major roads, and the already established TMP boundary. In addition to those features, BLM also picked the route network geographic areas based on different recreational experiences and opportunities. The BLM utilized the route network geographic areas to aid the recreation resource analysis, to help the public digest the diverse landscape of over 1 million acres, to push the BLM to ensure the route network connectivity was carefully considered, and ensure we were complying with the designation criteria (43 CFR 8342.1) through minimizing impacts and user conflicts on a network basis as documented in Sections 2.1 and 2.2, on a route-specific basis as documented in the individual route reports, and on a resource basis as documented in Section 3.3 and Appendix A.

### Routes Not included in the Route Network Geographic Areas:

There are 6 routes that are paved routes or highways, and they were not incorporated into the route network geographic area mileage analysis. Removing these routes helps show the total miles of OHV routes without having a skewed mileage analysis in a few of the route network geographic areas. All these routes are open in all alternatives and were often used as a boundary to separate route network geographic areas. Details about these routes can be seen in Table Appx - 29.

**Table Appx - 29: Paved Routes or Highways**

Route ID	Miles	Route Name
SS2535	5	Goblin Valley/Temple Wash
SS3315	13	Moore Cutoff
SS5317	5	Miller Canyon
SS5388	97	Interstate 70
SS6119	9	Hwy 72
SS6120	2	Ivie Creek Frontage Road
<b>Total</b>	<b>131</b>	

Below is a description of the recreational uses, a list of resources present, a list of routes, and a table to show the milage breakdown for each alternative in the 22 route network geographic areas.

### C.1 BEHIND THE REEF

The Behind the Reef area is made up of unique and scenic geologic features and deep, narrow canyons. Popular recreation activities within this area are OHV riding, dispersed camping, canyoneering, hiking, cultural/historic viewing, geologic viewing, scenic viewing, hunting, mountain biking, geocaching, and photography. This route network geographic area contains a part of the congressionally designated San Rafael Swell Recreation Area. A large majority of this area is made up of Wilderness, so these potential network routes are primarily boundary roads to the Wilderness Areas, and they provide access to popular trailheads such as Wild Horse Canyon, Crack Canyon, Chute Canyon, Hidden Splendor, and Baptist Draw. The Behind the Reef Trail is one of the most popular OHV trails in the TMA, as it is extremely scenic, accesses historic sites, and is a challenging trail to ride. The first 6.7 miles of the Behind the Reef Road is a Class B maintained road and provides access to many dispersed campsites and non-motorized trailheads. At Chute Canyon, the county maintenance stops and that is the start of the Behind the Reef Trail. The next 7 miles of this trail is a more difficult, high clearance 4X4 route that climbs up and along the backside of the San Rafael Reef. Near Ding Canyon, the trail narrows to 52" or less and full-size vehicles travel north toward McKay Flat to finish the loop. Narrower vehicles can continue along the backside of the Reef all the way to Hidden Splendor where they can view another historic mining district and see where Muddy Creek cuts through the Reef. Hidden Splendor can also be accessed by a Class B

road, and it serves as a backcountry staging area. Cultural historic viewing is popular at Hidden Splendor, and it is also used as a canyoneering/hiking trailhead for several nearby trails in the Wilderness. It is also the site of a take-out of the Muddy River for those who float through the Chute of the Muddy when water flows are high enough. There are two backcountry airstrips in this route network geographic area, the Hidden Splendor Airstrip and the McKay Flat Airstrip. This geographic area also contains the Waterfall Trail, which is a difficult single-track motorcycle trail that makes up a portion of the west boundary of the Little Ocean Draw Wilderness Area. This motorcycle trail is an extension to the single-track system in the Temple Mountain route network geographic area. Another growing activity in this area is multi-day mountain bike packing trips, both vehicle-supported and self-supported. This entire area gets a large amount of dispersed camping. This geographic area is also home of the some of the most popular slot canyons in the San Rafael Swell, including Baptist Draw, Little Wild Horse, Crack Canyon, Chute Canyon, Ding and Dang Canyons, and the Chute of the Muddy. Providing OHV access to and near these slot canyons that are in Wilderness Areas is important for visitors and having maintained access also helps search and rescue activities.

General resources within this geographic area are soils, vegetation, air, water, wildlife, cultural, paleontological, visuals, recreational, grazing, and other natural resources. Most of this geographic area is managed as wilderness as it contains the Little Ocean Draw Wilderness, Little Wild Horse Canyon Wilderness, Horse Valley Wilderness, and portions of the Muddy Creek Wilderness. Portions of the Muddy Creek Crack Canyon and Reds Canyon BLM Natural Areas are within this area. The South San Rafael Reef ACEC, Muddy Creek ACEC, and Wild Horse Canyon Rock Art ACEC are within this area. This area also contains habitat for threatened and endangered species such as the Mexican Spotted Owl, Southwest Willow Flycatcher, Barnaby Reed-Mustard, Jones Cycladenia, Last Chance Townsendia, San Rafael Cactus, and the Wright Fishhook Cactus.

Evaluated routes within the Behind the Reef route network geographic area: SS2580, SS2703, SS2704, SS2706, SS2708, SS2709, SS2710, SS2711, SS2716, SS2717, SS2718, SS2719, SS4129, SS4226, SS4226A, SS4227, SS4228, SS4229, SS4230, SS4231, SS4233, SS4234, SS4237, SS4238, SS4239, SS4240, SS4241, SS4242, SS4243, SS4244, SS4245, SS4246, SS4247, SS4248, SS4249, SS4250, SS4251, SS4252, SS4253, SS4254, SS4256, SS4257, SS4258, SS4259, SS4260, SS4262, SS4263, SS4264, SS4265, SS4266, SS4267, SS4268, SS4269, SS4270, SS4271, SS4272, SS4273, SS4274, SS4275, SS4276, SS4281, SS4282, SS4283, SS4284, SS4287, SS4288, SS4289, SS4291, SS4292, SS4294, SS4295, SS4295A, SS4298, SS4299, SS4300, SS4301, SS4302, SS4303, SS4304, SS4305, SS4306, SS4307, SS4308, SS4311, SS4312, SS4313, SS4314, SS4315, SS4316, SS4318, and SS4322.

The Behind the Reef route network geographic area is approximately 91,605 Acres.

#### **Behind the Reef**

Total Miles: 104

Alt A	Miles	Alt B	Miles	Alt C	Miles	Alt D	Miles	Alt E	Miles
Open to all use	76	Open to all use	73	Open to all use	82	Open to all use	91	Open to all use	80
Limited to vehicles less than 52"	3	Limited to vehicles less than 52"	3	Limited to vehicles less than 66"	3	Limited to single-track vehicles	12	Limited to vehicles less than 66"	3
Limited to single-track vehicles	12	Limited to aircraft	0	Limited to single-track vehicles	12	Limited to aircraft	1	Limited to single-track vehicles	12
Closed	13	Closed	28	Limited to aircraft	1	Closed	1	Limited to aircraft	1
				Closed	6			Closed	8

Alternative A would keep 13 miles (12%) of the evaluated routes in this area closed and keep 15 miles (14%) limited.

Alternative B would close 28 miles (26%) of the evaluated routes and limit 4 miles (4%).

Alternative C would close 6 miles (6%) of the evaluated routes and limit 16 miles (16%).

Alternative D would close 0.8 miles (1%) of the evaluated routes and limit 13 miles (12%).

Alternative E would close 8 miles (8%) of the evaluated routes and limit 16 miles (15%).

In addition to the evaluated routes, there were 8 miles of originally inventoried routes in this route network geographic area that were removed from consideration in the EA because they were closed in all alternatives for not having an identified motorized public purpose and need, or for having significant resource concerns. None of these routes were designated for OHV use in the past.

## **C.2 BLACK DRAGON / MEXICAN MOUNTAIN**

The Black Dragon/Mexican Mountain area is made up of some large flats, benches, towering buttes, and deep canyons, and it contains a part of the congressionally designated San Rafael Swell Recreation Area. Popular recreation activities within this area include OHV riding, dispersed camping, scenic viewing, cultural/historic viewing, climbing, canyoneering, mountain biking, horseback riding, hiking, backpacking, wildlife viewing, hunting, and occasionally extreme kayaking. On the northern side of this geographic area is the Mexican Mountain Wilderness Area, so several of the route network geographic area routes provide access to trailheads and overlooks. The Black Dragon Canyon route is a popular OHV route and gets used commercially for tours and events as a scenic OHV route, and the Black Dragon Rock Art ACEC is home to some impressive Barrier Canyon style rock imagery and is a popular location to visit not far from I-70. Mexican Mountain Road is a long cherry-stemmed route into the Wilderness Area and provides opportunities for dispersed camping and access to trailheads such as the Dillon Wall for climbing, the Black Boxes for canyoneering, and remote hiking/backpacking trips. The routes in the southern half of the geographic area provide access to other wilderness trailheads such as Swasey's Leap and Lock Hart Boxes. Closer to I-70, routes access Jackass benches, where wild burros can be found, and some easy OHV loop opportunities. Bighorn sheep can be found in the deep canyons in the southeast corner of the area. This network also accesses dispersed camping focus areas, including Mexican Mountain Road, the areas near Sinkhole Flat, and the mouth of Black Dragon Canyon.

General resources within this route network geographic area are soils, vegetation, air, water, wildlife, cultural, paleontological, visuals, recreational, grazing, and other natural resources. Most of this geographic area is managed as wilderness as it contains a portion of the Mexican Mountain Wilderness. The Mexican Mountain Lands with Wilderness Characteristic inventoried unit and portions of the San Rafael Canyon ACEC, I-70 Scenic ACEC, and the entire Black Dragon Rock Art ACEC are within this area. This area also contains habitat for threatened and endangered species such as the Mexican Spotted Owl, Yellow-billed Cuckoo, Barnaby Reed-Mustard, Jones Cycladenia, Last Chance Townsendia, San Rafael Cactus, and Ute Ladies'-Tresses.

Evaluated routes within the Black Dragon/Mexican Mountain route network geographic area: SS2046, SS2057, SS2058, SS2059, SS2060, SS2061, SS2062, SS2064, SS2065, SS2066, SS2067, SS2068, SS2069, SS2070, SS2071, SS2072, SS2073, SS2074, SS2075, SS2076, SS2078, SS2079, SS2080, SS2081, SS2082, SS2083, SS2086, SS2088, SS2089, SS2089A, SS2100, SS2108, SS2108A, SS2109, SS2123, SS2124, SS2125, SS2132, SS2133, SS2134, SS2136, SS2140, SS2141, SS2142, SS2144, SS2145, SS2148, SS2149, SS2150, SS2151, SS2152, SS2153, SS2157, SS2160, SS2161, SS2162, SS2168, SS2170, SS2380, SS2382, SS2384, SS2385, SS2386, SS2387, SS2388, SS2389, SS2390, SS2391, SS2392, SS2393, SS2394, SS2397, SS2398, SS2399, SS2400, SS2401, SS2405, SS2406, SS2410, SS2411, and SS2820.

The Black Dragon/Mexican Mountain route network geographic area is approximately 87,656 acres.

**Black Dragon/Mexican Mountain**

Total Miles: 77

Alt A	Miles	Alt B	Miles	Alt C	Miles	Alt D	Miles	Alt E	Miles
Open to all use	54	Open to all use	57	Open to all use	65	Open to all use	77	Open to all use	63
Closed	23	Closed	20	Closed	12	Closed	0.4	Closed	14

Alternative A would keep 23 miles (30%) of the evaluated routes in this area closed.

Alternative B would close 20 miles (27%) of the evaluated routes.

Alternative C would close 12 miles (16%) of the evaluated routes.

Alternative D would close 0.4 miles (<1%) of the evaluated routes.

Alternative E would close 14 miles (18%) of the evaluated routes.

In addition to the evaluated routes, there were 12 miles of originally inventoried routes in this route network geographic area that were removed from consideration in the EA because they were closed in all alternatives for not having an identified motorized public purpose and need, or for having significant resource concerns. None of these routes were designated for OHV use in the past.

### **C.3 BOX FLAT / BIG HOLE**

The Box Flat/Big Hole area is made up of expansive flats, benches, and several small canyons. Popular recreation activities within this area are cultural/historic viewing, OHV riding, scenic viewing, horseback riding, hiking, hunting, and occasional backpacking. On the southern side of this geographic area is the Mexican Mountain Wilderness Area, so several of the area routes provide access Wilderness Area trails or overlooks. The boundary route on the northwest edge of the Wilderness, which accesses a popular rock imagery panel, used to be within the WSA, and it was intentionally made the boundary route in the Dingell Act that released that section of WSA and designated the Mexican Mountain Wilderness Area. The routes in the northeast portion of this route network geographic area comprise the south end of the Chimney Rock trail system. There are several single-track motorcycle routes, and some popular OHV routes that provide loop connections and access to historic sites. There are two ACECs in this geographic area, the Cottonwood Canyon Rock Art ACEC, and the Big Hole Historic ACEC. Both areas demonstrate that humans have occupied the areas for a long time and used these reliable water sources to travel across this landscape. The Old Spanish National Historic Trail crosses through this area, and some of these potential network routes are part of the OHV Heritage Loop that offers a self-guided tour that can be accessed via smart devices. A few features in this area are the Head Rock, which is a geologic landmark sketched on the Gunnison Expedition to identify where the Old Spanish Trail turned to the west, and remnants of an old railroad grade and historic wagon roads.

General resources within this geographic area are soils, vegetation, air, water, wildlife, cultural, paleontological, visuals, recreational, grazing, and other natural resources. This geographic area contains a portion of the Mexican Mountain Wilderness the entirety of Mexican Mountain BLM Natural Area and portions of the Mexican Mountain and Lost Springs Wash Lands with Wilderness Characteristics inventory units. The Big Hole and Cottonwood Canyon Rock Art ACECs are within this area. This area also contains habitat for threatened and endangered species such as the Mexican Spotted Owl, Barnaby Reed-Mustard, Jones Cycladenia, San Rafael Cactus, and Ute Ladies'-Tresses.

Evaluated routes within the Box Flat/Big Hole route network geographic area: SS2172, SS2173, SS2174, SS2174A, SS2174B, SS2176, SS2177, SS2179, SS2181, SS2182, SS2183, SS2184, SS2186, SS2188,

SS2189, SS2194, SS2195, SS2199, SS2204, SS2205, SS2206, SS2209, SS2211, SS2214, SS2217, SS2218, SS2219, SS2221, SS2224, SS2226, SS2228, SS2229, SS2230, SS2232, SS2233, SS2234, SS2235, SS2236, SS2237, SS2238, SS2239, SS2241, SS2242, SS2243, SS2245, SS2246, SS2251, SS2252, SS2255, SS2257, SS2259, SS2260, SS2261, SS2263, SS2264, SS2265, SS2267, SS2268, SS2269, SS2270, SS2272, SS2273, SS2276, and SS2277.

The Box Flat/Big Hole route network geographic area is approximately 23,063 acres.

**Box Flat/Big Hole**

Total Miles: 68

Alt A	Miles	Alt B	Miles	Alt C	Miles	Alt D	Miles	Alt E	Miles
Open to all use	37	Open to all use	22	Open to all use	39	Open to all use	52	Open to all use	33
Closed	31	Closed	46	Limited to vehicles less than 66"	8	Limited to vehicles less than 66"	7	Limited to vehicles less than 66"	0.8
				Limited to single-track vehicles	7	Limited to single-track vehicles	7	Limited to single-track vehicles	6
				Closed	14	Closed	2	Closed	28

Alternative A would keep 31 miles (46%) of the evaluated routes in this area closed.

Alternative B would close 46 miles (67%) of the evaluated routes.

Alternative C would close 14 miles (21%) of the evaluated routes and limit 15 miles (22%).

Alternative D would close 2 miles (3%) of the evaluated routes and limit 14 miles (21%).

Alternative E would close 28 miles (41%) of the evaluated routes and limit 7 miles (10%).

In addition to the evaluated routes, there were 12 miles of originally inventoried routes in this route network geographic area that were removed from consideration in the EA because they were closed in all alternatives for not having an identified motorized public purpose and need, or for having significant resource concerns. None of these routes were designated for OHV use in the past.

#### **C.4 BUCKHORN / WEDGE**

Buckhorn/Wedge is one of the PFO's recreation management zones and is one of the most-visited networks within the TMA. Popular recreation activities within this area are scenic viewing, cultural/historic viewing, camping, mountain biking, OHV riding, hunting, rock climbing, horseback riding, hiking, river rafting, and occasional flying. It contains part of the congressionally designated San Rafael Swell Recreation Area and boasts a high scenic quality and mesmerizing geologic features. It is home to the "Little Grand Canyon," one of the most popular overlooks in the TMA. This area is easily accessible to the public, as Emery County frequently maintains access roads for 2WD access. The Wedge Overlook provides a view from a higher elevation in the area, and the Buckhorn Draw Road leads visitors down in elevation through different geologic layers to the bottom and the San Rafael River. Camping is highly sought after in the area, and the BLM maintains the San Rafael Swinging Bridge Campground and the Buckhorn Draw Campground as fee sites and has plans to develop more campgrounds in the Wedge area. The area also has hundreds of dispersed campsites because of its vicinity to local communities such as Castle Dale and Huntington, in addition to the scenic quality, ease of access, and proximity to recreation activities. The area also has a large concentration of cultural and historic sites, including the Buckhorn Wash rock imagery panel and dozens of other rock imagery panels, the Swinging Bridge built by the Civilian Conservation Corps, the Morrison-Knudson tunnels, more commonly known as the (MK

tunnels) built by the military during the Cold War era, dinosaur footprints, and even historic inscriptions from early settlers and outlaws. The only designated mountain bike trail in Emery County on BLM-managed lands is the 18-mile Good Water Rim Trail at the Wedge. In addition to that trail, gravel grinding and bikepacking along the main roads is also a growing activity in this area. There are over 100 documented climbing routes in the Buckhorn Draw, which is becoming a destination for rock climbers looking for challenging features to climb. Network area routes access the put-in and take out for a scenic, family-friendly float on the San Rafael River during high spring flows. When water is low, for most of the year, the river bottom and side canyons can be enjoyed by hikers and backpackers. The Swinging Bridge Campground provides horse corrals and staging areas for equestrian users. This route network geographic area is managed for easy access, developed camping opportunities, and access for non-motorized activities. Most recreationists in this area are passing through to other areas, camping in the area, or have a desire for extremely easy OHV use along maintained roads. The Buckhorn Draw is also a popular place for wildlife viewing activities. Mule deer, bighorn sheep, and other species can be seen during the winter months. Hunting is also a popular recreational activity in the fall.

General resources within this geographic area are soils, vegetation, air, water, wildlife, cultural, paleontological, visuals, recreational, grazing, and other natural resources. This area contains a portion of the Mexican Mountain and Sids Mountain Wilderness Areas and contains portions of the Mexican Mountain and Sids Mountain Lands with Wilderness Characteristics inventory units. The San Rafael Canyon ACEC is within this area and the National Historic Old Spanish Trail is on the northern boundary. This area also contains habitat for threatened and endangered species such as the Mexican Spotted Owl, Barnaby Reed-Mustard, Jones Cycladenia, San Rafael Cactus, Last Chance Townsendia, and Ute Ladies'-Tresses.

Evaluated routes within the Buckhorn/Wedge route network geographic area: SS2001, SS2002, SS2004, SS2005, SS2006, SS2007, SS2010, SS2013, SS2017, SS2018, SS2019, SS2020, SS2021, SS2022, SS2023, SS2024, SS2026, SS2027, SS2029, SS2033, SS2034, SS2035, SS2036, SS2037, SS2038, SS2039, SS2044, SS2045, SS2047, SS2053, SS2055, SS2056, SS2117, SS2825, SS3003, SS3004, SS3005, SS3006, SS3007, SS3024, SS3084, SS3085, SS3086, SS3087, SS3088, SS3089, SS3091, SS3092, SS3094, SS3097, SS3103, SS3105, SS3106, SS3111, SS3112, SS3113, SS3114, SS3115, SS3116, SS3123, SS3145, SS3153, SS3154, SS3157, SS3158, SS3161, SS3167, SS3169, SS3170, SS3171, SS3173, SS3174, SS3175, SS3176, SS3177, SS3178, SS3179, SS3180, SS3181, SS3182, SS3183, SS3184, SS3185, SS3186, SS3187, SS3188, SS3189, SS3190, SS3200, SS3201, SS3214, SS3224, SS3225, SS3228, SS3229, SS3231, SS3236, SS3237, SS3238, and SS3532.

The Buckhorn/Wedge route network geographic area is approximately 36,182 acres.

**Buckhorn/Wedge**

Total Miles: 99

Alt A	Miles	Alt B	Miles	Alt C	Miles	Alt D	Miles	Alt E	Miles
Open to all use	68	Open to all use	65	Open to all use	70	Open to all use	77	Open to all use	69
Limited to E-bikes	12	Limited to E-bikes	12	Limited to E-bikes	17	Limited to vehicles less than 66"	3	Limited to E-bikes	13
Closed	18	Closed	21	Closed	12	Limited to E-bikes	17	Limited by season	3
						Closed	1	Closed	14

Alternative A would keep 18 miles (18%) of the evaluated routes in this area closed and keep 12 miles (12%) limited.

Alternative B would close 21 miles (21%) of the evaluated routes and limit 12 miles (12%).

Alternative C close 12 miles (12%) of the evaluated routes and limit 17 miles (17%).

Alternative D would close 1 mile (1%) of the evaluated routes and limit 20 miles (20%).

Alternative E would close 14 miles (14%) of the evaluated routes and limit 16 miles (16%).

In addition to the evaluated routes, there were 36 miles of originally inventoried routes in this network area that were removed from consideration in the EA because they were closed in all alternatives for not having an identified motorized public purpose and need, or for having significant resource concerns. None of these routes were designated for OHV use in the past.

## **C.5 BUCKMASTER / TIDWELL DRAW**

The Buckmaster/Tidwell Draw area is made up of some unique geology. Popular recreation activities within this area are OHV riding, dispersed camping, cultural/historic viewing, scenic viewing, hiking, backpacking, wildlife viewing, hunting, mountain biking, horseback riding, and canyoneering. The Buckmaster area is rich in minerals and was heavily mined from the early 1900's up into the 1960's, leaving behind a very dense road system in the southern half of this area. Buckmaster is a large group camping site identified in the 2008 Price RMP. This area is easily accessible from I-70, making it a great place for RVs hauling OHVs to pull off, camp, and unload their OHVs to explore the historic road network and the interesting mining features left behind. Historic buildings and abandoned vehicles and mining equipment can be found, allowing visitors to imagine living a lifestyle that a previous population did. Most of the dangerous mining shafts in this area have been closed and mitigated, making it safer for visitors. Many of the old mining roads provide rocky, challenging OHV trails, and the background setting in this area is the scenic San Rafael Reef. The western edge is made up of the Mexican Mountain Wilderness Area, and several of the potential network routes serve as the boundary of that Wilderness Area and provide access to many different non-motorized trail heads. The Smith Cabin, in the center of the geographic area, provides evidence of the area's ranching history (grazing is still a permitted use today). Cottonwood Canyon is on the north end of the area and has a reliable spring water source, a site with cultural/historic traces, and is used by modern day backpackers/hikers and horse riders. The southwest end of the area is Tidwell Draw, where the San Rafael River cuts through the San Rafael Reef. This area is also a part of the Old Spanish Trail OHV Heritage Loop tour and highlights sites such as the Smith Cabin, Idol Rock, the old railroad grade, and the historic inscriptions all along Cottonwood Wash. There are also single-track trails that follow along the slick rock in the Buckmaster area and provide a loop system called the Miners Run. The Wilderness on the west side of this area is also a great place for desert bighorn sheep viewing.

General resources within this geographic area are soils, vegetation, air, water, wildlife, cultural, paleontological, visuals, recreational, grazing, and other natural resources. This geographic area contains a portion of the Mexican Mountain Wilderness Area and contains a portion of the Lost Springs Wash Lands with Wilderness Characteristics inventory unit. The Tidwell Draw Historic ACEC is fully within the area, and a small section of the National Historic Old Spanish Trail goes through this area. This area also contains habitat for threatened and endangered species such as the Mexican Spotted Owl, Barnaby Reed-Mustard, Jones Cycladenia, San Rafael Cactus, Last Chance Townsendia, and Ute Ladies'-Tresses.

Evaluated routes within the Buckmaster/Tidwell Draw route network geographic area: SS2278, SS2281, SS2282, SS2286, SS2287, SS2288, SS2290, SS2291, SS2292, SS2293, SS2294, SS2295, SS2296, SS2297, SS2298, SS2299, SS2300, SS2301, SS2302, SS2303, SS2304, SS2305, SS2306, SS2307, SS2308, SS2309, SS2310, SS2311, SS2312, SS2313, SS2314, SS2316, SS2317, SS2318, SS2319, SS2320, SS2321, SS2322, SS2323, SS2324, SS2325, SS2326, SS2327, SS2328, SS2329, SS2330, SS2331, SS2332, SS2333, SS2334, SS2335, SS2336, SS2337, SS2338, SS2339, SS2340, SS2341, SS2342, SS2343, SS2344, SS2345, SS2346, SS2347, SS2348, SS2349, SS2350, SS2351, SS2352,

SS2353, SS2354, SS2355, SS2356, SS2357, SS2358, SS2359, SS2360, SS2361, SS2362, SS2363, SS2364, SS2365, SS2366, SS2367, SS2368, SS2369, SS2370, SS2371, SS2372, SS2373, SS2375, SS2376, SS2377, SS2378, and SS2379.

The Buckmaster/Tidwell Draw route network geographic area is approximately 24,013 acres.

**Buckmaster/Tidwell Draw**

Total Miles: 53

Alt A	Miles	Alt B	Miles	Alt C	Miles	Alt D	Miles	Alt E	Miles
Open to all use	43	Open to all use	30	Open to all use	34	Open to all use	44	Open to all use	32
Closed	11	Limited to single-track vehicles	7	Limited to vehicles less than 66"	4	Limited to single-track vehicles	7	Limited to vehicles less than 66"	4
		Closed	16	Limited to single-track vehicles	7	Closed	2	Limited to single-track vehicles	7
				Closed	8			Closed	11

Alternative A would keep 11 miles (21%) of the evaluated routes in this area closed.

Alternative B would close 16 miles (30%) of the evaluated routes and limit 7 miles (11%).

Alternative C would close 8 miles (15%) of the evaluated routes and limit 11 miles (21%).

Alternative D would close 2 miles (4%) of the evaluated routes and limit 7 miles (13%).

Alternative E would close 11 miles (21%) of the evaluated routes and limit 11 miles (21%).

In addition to the evaluated routes, there were 6 miles of originally inventoried routes in this route network geographic area that were removed from consideration in the EA because they were closed in all alternatives for not having an identified motorized public purpose and need, or for having significant resource concerns. None of these routes were designated for OHV use in the past.

## **C.6 CLIFF DWELLERS / HOME BASE**

The Cliff Dwellers/Home Base area is made up of large valleys and buttes. Popular recreation activities within this area are OHV riding, dispersed camping, cultural/historic viewing, wildlife viewing, hunting, mountain biking, backcountry flying/landing, canyoneering, hiking, and horseback riding. This geographic area contains a part of the congressionally designated San Rafael Swell Recreation Area. The Cliff Dwellers Flat provides access to the northeast portion of the San Rafael Reef Wilderness Area. One of motorized routes in this area is also used as a backcountry airstrip. This loop road and several of its spurs provide access to undeveloped trailheads, dispersed campsites, and easier OHV loop opportunities. The loop road is also used by mountain bikers. The Home Base Flat area is similar; it has a loop with several spur routes that provide access to undeveloped trailheads and dispersed campsites, and the road serves as an easier OHV loop opportunity. The western portion of this area receives more camping because of its ease of access from exit 131 of I-70 and its central location in the San Rafael Swell. This route network geographic area provides opportunities for hunting, wildlife viewing, and wild burro viewing.

General resources within this geographic area are soils, vegetation, air, water, wildlife, cultural, paleontological, visuals, recreational, grazing, and other natural resources. This geographic area contains a portion of the San Rafael Reef Wilderness Area and contains a portion of the San Rafael Reef Lands with Wilderness Characteristics inventory units. Portions of the San Rafael Reef North and I-70 Scenic ACECs are in this area. This area also contains habitat for threatened and endangered species such as the

Mexican Spotted Owl, Barnaby Reed-Mustard, Jones Cycladenia, San Rafael Cactus, Last Chance Townsendia, and Ute Ladies'-Tresses.

Evaluated routes within the Cliff Dwellers/Home Base route network geographic area: SS2715, SS2767, SS2769, SS2770, SS2771, SS2772, SS2774, SS2775, SS2777, SS2778, SS2781, SS2782, SS2783, SS2784, SS2785, SS2786, SS2787, SS2788, SS2790, SS2791, SS2792, SS2793, SS2794, SS2795, SS2796, SS2797, SS2798, SS2801, SS2803, SS2806, SS2807, and SS2810.

The Cliff Dwellers/Home Base route network geographic area is approximately 50,110 acres.

**Cliff Dwellers/Home Base**

Total Miles: 44

Alt A	Miles	Alt B	Miles	Alt C	Miles	Alt D	Miles	Alt E	Miles
Open to all use	25	Open to all use	24	Open to all use	31	Open to all use	44	Open to all use	26
Closed	20	Closed	21	Closed	14			Closed	19

Alternative A would keep 20 miles (45%) of the evaluated routes in this area closed.

Alternative B would close 21 miles (48%) of the evaluated routes.

Alternative C would close 14 miles (32%) of the evaluated routes.

Alternative D would not close any of the evaluated routes.

Alternative E would close 19 miles (43%) of the evaluated routes.

In addition to the evaluated routes, there were 9 miles of originally inventoried routes in this route network geographic area that were removed from consideration in the EA because they were closed in all alternatives for not having an identified motorized public purpose and need, or for having significant resource concerns. None of these routes were designated for OHV use in the past.

## C.7 COAL CLIFFS

The Coal Cliffs area is made up of some unique geologic layers that run north-south through its landscape. Popular recreation activities within this area are OHV riding, dispersed camping, cultural/historic viewing, geologic viewing, hunting, hiking, and horseback riding. There are several scenic OHV loop opportunities in this route network geographic area. This network provides easily accessible camping and OHV opportunities close to the local communities of Emery and Ferron. Several easy to moderately challenging OHV loops in this network provide access to remote overlooks, and to many different scenic areas. Dispersed campsites can be found throughout the unit but are more concentrated on the north boundary road. One popular site in the area is the Rochester rock imagery, located on its western edge. The site has a parking area, and visitors can do a ¾-mile hike to view the panel. In addition to the rock imagery, visitors can also learn about the Muddy Creek crossing on the Old Spanish Trail, and access silhouettes from that same parking area. Many of the routes in this area were built for range improvement projects such as the development of stock ponds, and these roads are still frequently used today to gain access across this diverse/scenic landscape.

General resources within this geographic area are soils, vegetation, air, water, wildlife, cultural, paleontological, visuals, recreational, grazing, and other natural resources. This geographic area contains no inventoried lands with wilderness characteristics. Portions of the Dry Wash Rock Art ACEC and the I-70 Scenic ACEC are in this area. The National Historic Old Spanish Trail is near the western boundary of this area. This area also contains habitat for threatened and endangered species such as the Mexican

Spotted Owl, Barnaby Reed-Mustard, Jones Cycladenia, San Rafael Cactus, Last Chance Townsendia, Wright Fishhook Cactus, and the Ute Ladies'-Tresses.

Evaluated routes within the Coal Cliffs Geographic route network geographic area: SS5186, SS5187, SS5188, SS5189, SS5190, SS5193, SS5196, SS5197, SS5201, SS5204, SS5205, SS5206, SS5207, SS5208, SS5209, SS5210, SS5211, SS5212, SS5213, SS5214, SS5215, SS5216, SS5217, SS5218, SS5219, SS5220, SS5221, SS5224, SS5225, SS5226, SS5229, SS5230, SS5233, SS5235, SS5237, SS5239, SS5240, SS5241, SS5242, SS5242A, SS5243, SS5244, SS5245, SS5246, SS5249, SS5250, SS5251, SS5252, SS5254, SS5255, SS5256, SS5257, SS5258, SS5260, SS5262, SS5264, SS5265, SS5266, SS5267, SS5268, SS5269, SS5270, SS5271, SS5272, SS5273, SS5274, SS5275, SS5277, SS5278, SS5280, SS5282, SS5283, SS5284, SS5285, SS5287, SS5290, SS5291, SS5292, SS5296, SS5298, SS5299, SS5300, SS5301, SS5302, SS5307, SS5318, SS5319, SS5320, SS5321, SS5322, SS5323, SS5324, SS5325, SS5326, SS5328, SS5329, SS5330, SS5332, SS5333, SS5334, SS5335, SS5336, SS5337, SS5338, SS5339, SS5341, SS5342, SS5343, SS5344, SS5345, SS5346, SS5350, SS5352, SS5353, SS5354, SS5355, SS5356, SS5359, SS5360, SS5364, SS5365, SS5366, SS5367, SS5368, SS5369, SS5370, SS5372, SS5373, SS5374, SS5375, SS5376, SS5377, SS5378, SS5380, SS5382, SS5384, SS5385, and SS5387.

The Coal Cliffs route network geographic area is approximately 65,797 acres.

#### **Coal Cliffs**

Total Miles: 129

<b>Alt A</b>	<b>Miles</b>	<b>Alt B</b>	<b>Miles</b>	<b>Alt C</b>	<b>Miles</b>	<b>Alt D</b>	<b>Miles</b>	<b>Alt E</b>	<b>Miles</b>
Open to all use	47	Open to all use	30	Open to all use	78	Open to all use	125	Open to all use	56
Closed	82	Limited to vehicles less than 66"	16	Limited to vehicles less than 66"	10	Limited to vehicles less than 66"	2	Limited to vehicles less than 66"	2
		Closed	83	Closed	42	Closed	2	Closed	71

Alternative A would keep 82 miles (64%) of the evaluated routes in this area closed.

Alternative B would close 83 miles (64%) of the evaluated routes and limit 16 miles (12%).

Alternative C would close 42 miles (33%) of the evaluated routes and limit 10 miles (8%).

Alternative D would close 2 miles (2%) of the evaluated routes and limit 2 miles (2%).

Alternative E would close 71 miles (55%) of the evaluated routes and limit 2 miles (2%).

In addition to the evaluated routes, there were 20 miles of originally inventoried routes in this route network geographic area that were removed from consideration in the EA because they were closed in all alternatives for not having an identified motorized public purpose and need, or for having significant resource concerns. None of these routes were designated for OHV use in the past.

## **C.8 COPPER GLOBE / LONE TREE**

The Copper Globe/Lone Tree area is made up of towering cliffs, unique geological features, and large washes/canyons. Popular recreation activities within this area are OHV riding, dispersed camping, cultural/historic viewing, geologic viewing, scenic viewing, wildlife viewing, hunting, rock hounding, hiking, horseback riding, mountain biking, and backpacking. This geographic area contains a part of the congressionally designated San Rafael Swell Recreation Area. It provides access to some of the most popular trails in the TMA. Some of these routes are boundary roads to the Wilderness Areas and provide a remote OHV experience into/across the backcountry. These trails are frequently used for commercial

tours and permitted events each year. In addition to the OHV destination trails such as Copper Globe, Kimball Draw, and the Reds Canyon Overlooks, many of these potential network routes also provide access to undeveloped non-motorized trailheads such as the San Rafael Knob, Devils Canyon, and Muddy Creek. The eastern half of this route network geographic area provides outstanding scenic quality and challenging OHV trails. Some key features in the eastern half are the Lone Tree Bridge, Upper Muddy Creek, access points from I-70 exits, geological features such as volcanic dikes, and cultural/historic sites such as the historic Butch Cassidy inscription. The western half, though still scenic and with varied geologic features, has more maintained roads rather than difficult OHV routes. Some key features in the western half are the Copper Globe Mine, Horizon Arch, and the San Rafael Knob, which is the highest peak in the San Rafael Swell. Justesen Flats, in the northwest part of the unit, has a developed OHV trailhead, and is also a popular place for dispersed camping near Exit 116 off I-70. Beyond the scenic quality this route network geographic area's trails offer; they also provide more challenging OHV loop opportunities for those who seek rocky/difficult trail experiences. This area is also frequented by desert bighorn sheep and other wildlife that people enjoy watching and hunting.

General resources within this geographic area are soils, vegetation, air, water, wildlife, cultural, paleontological, visuals, recreational, grazing, and other natural resources. This geographic area contains the entire Devils Canyon Wilderness and a portion of the Muddy Creek Wilderness. The area contains portions of the Devils Canyon, Muddy Creek Crack Canyon, Rock Canyon, Mussentuchit Badlands, and the Upper Muddy Creek inventoried lands with wilderness characteristics. The area contains portions of the Muddy Creek and I-70 Scenic ACECs and the Lucky Strike, Copper Globe, and Shepards End Historic ACEC's. This area also contains habitat for threatened and endangered species such as the Mexican Spotted Owl, Yellow-billed Cuckoo, Barnaby Reed-Mustard, Jones Cycladenia, San Rafael Cactus, Last Chance Townsendia, Wright Fishhook Cactus, and the Ute Ladies'-Tresses.

Evaluated routes within the Copper Globe/Lone Tree route network geographic area: SS4515, SS4516, SS4516A, SS4517, SS4518, SS4519, SS4520, SS4521, SS4521A, SS4522, SS4523, SS4524, SS4525, SS4526, SS4527, SS4528, SS4529, SS4530, SS4531, SS4532, SS4533, SS4534, SS4535, SS4537, SS4538, SS4539, SS4540, SS4541, SS4542, SS4543, SS4544, SS4545, SS4546, SS4547, SS4548, SS4550, SS4552, SS4553, SS4554, SS4555, SS4556, SS4557, SS4558, SS4559, SS4560, SS4561, SS4562, SS4563, SS4564, SS4567, SS4568, SS4570, SS4571, SS4572, SS4573, SS4574, SS4575, SS4576, SS4580, SS4581, SS4583, SS4584, SS4585, SS4586, SS4587, SS4588, SS4589, SS4590, SS4592, SS5001, SS5002, SS5003, SS5004, SS5005, SS5006, SS5007, SS5008, SS5010, SS5011, SS5012, SS5013, SS5015, SS5016, SS5017, SS5019, SS5021, SS5022, SS5023, SS5024, SS5025, SS5026, SS5027, SS5029, SS5030, SS5032, SS5033, SS5034, SS5035, SS5036, SS5037, SS5038, SS5039, SS5050, SS5051, SS5052, SS5058, SS5060, SS5069, SS5070, SS5071, SS5072, SS5073, SS5075, SS5076, SS5077, SS5078, SS5079, SS5080, SS5081, SS5083, SS5085, SS5087, SS5104, SS5105, SS5106, SS5107, SS5108, SS5110, SS5111, SS5113, SS5115, SS5116, SS5118, SS5119, SS5120, SS5122, SS5125, SS5163, SS6078, SS6079, SS6080, SS6082, SS6083, SS6084, SS6088, SS6089, SS6089A, SS6090, SS6091, SS6093, SS6094, SS6095, SS6096, SS6097, SS6100, SS6102, SS6103, SS6104, SS6105, SS6112, and SS6113.

The Copper Globe/Lone Tree Area is approximately 113,392 acres.

**Copper Globe/Lone Tree**Total Miles: 192

Alt A	Miles	Alt B	Miles	Alt C	Miles	Alt D	Miles	Alt E	Miles
Open to all use	95	Open to all use	90	Open to all use	117	Open to all use	159	Open to all use	106
Closed	97	Closed	101	Limited to vehicles less than 66"	2	Limited to vehicles less than 66"	11	Limited to vehicles less than 66"	2
				Closed	73	Limited to single-track vehicles	19	Closed	84
						Closed	2		

Alternative A would keep 97 miles (51%) of the evaluated routes in this area closed.

Alternative B would close 101 miles (53%) of the evaluated routes.

Alternative C would close 73 miles (38%) of the evaluated routes and limit 2 miles (1%).

Alternative D would close 2 miles (1%) of the evaluated routes and limit 30 miles (16%).

Alternative E would close 84 miles (44%) of the evaluated routes and limit 2 miles (1%).

In addition to the evaluated routes, there were 19 miles of originally inventoried routes in this route network geographic area that were removed from consideration in the EA because they were closed in all alternatives for not having an identified motorized public purpose and need, or for having significant resource concerns. None of these routes were designated for OHV use in the past.

**C.9 COW FLATS / CEDAR MOUNTAIN**

The Cow Flats/Cedar Mountain area is made up of rolling hills and benches and contains the north end of Cedar Mountain. Popular recreation activities in this area are dispersed camping, OHV riding, hunting, bouldering, scenic viewing, driving for pleasure, cultural/historic viewing, horseback riding, mountain biking, and, to a lesser extent, hiking. The area provides a few OHV loop opportunities in the vicinity of local communities, and close to heavily used dispersed campsites. A few locations, such as along the northern boundary route and in the southwest corner, are popular for dispersed camping. This route network geographic area provides camping access near the Jurassic National Monument, the Triassic Bouldering Area, and Cedar Mountain. It also provides access for RV camping close to communities such as Cleveland, Elmo, Huntington, and Price. Route network geographic area routes access the Triassic Bouldering Area, which is just outside the northwest corner of this TMA. The southwest corner is near the Staker Springs site, which was identified in the 2008 Price RMP as a large group site for dispersed camping. Private lands in this area limit public access, so the area does not see a high level of recreation use beyond the camping opportunities discussed above.

General resources within this geographic area are soils, vegetation, air, water, wildlife, cultural, paleontological, visuals, recreational, grazing, and other natural resources. This geographic area contains no inventoried lands with wilderness characteristics. The area contains a small portion of the Cleveland Lloyd Dinosaur Quarry ACEC. This area also contains habitat for threatened and endangered species such as the Mexican Spotted Owl, Barnaby Reed-Mustard, Jones Cycladenia, San Rafael Cactus, and the Ute Ladies'-Tresses.

Evaluated routes within the Cow Flats/Cedar Mountain route network geographic area: SS1024, SS1027, SS1028, SS1030, SS1031, SS1033, SS1034, SS1036, SS1038, SS1039, SS1040, SS1043, SS1046, SS1047, SS1048, SS1049, SS1053, SS1054, SS1055, SS1056, SS1057, SS1058, SS1059, SS1060,

SS1061, SS1062, SS1063, SS1064, SS1067, SS1068, SS1069, SS1071, SS1072, SS1075, SS1076, SS1077, SS1079, SS1080, SS1081, SS1082, SS1083, SS1084, SS1085, SS1086, SS1087, SS1088, SS1089, SS1090, SS1091, SS1092, SS1093, SS1094, SS1095, SS1187, SS1188, SS1189, SS1190, SS1192, SS1194, SS1195, SS1196, SS1197, SS1199, SS1200, SS1201, SS1202, SS1203, SS1204, SS1205, SS1208, SS1209, SS1210, SS1211, SS1212, SS1216, SS1218, SS1219, SS1220.

The Cow Flats/Cedar Mountain Area is approximately 16,595 acres.

**Cow Flats/Cedar Mountain**

Total Miles: 37

Alt A	Miles	Alt B	Miles	Alt C	Miles	Alt D	Miles	Alt E	Miles
Open to all use	17	Open to all use	18	Open to all use	23	Open to all use	37	Open to all use	20
Closed	21	Closed	19	Closed	14	Closed	0.3	Closed	17

Alternative A would keep 21 miles (57%) of the evaluated routes in this area closed.

Alternative B would close 19 miles (51%) of the evaluated routes.

Alternative C would close 14 miles (38%) of the evaluated routes.

Alternative D would close 0.3 miles (<1%) of the evaluated routes.

Alternative E would close 17 miles (46%) of the evaluated routes.

In addition to the evaluated routes, there were 5 miles of originally inventoried routes in this route network geographic area that were removed from consideration in the EA because they were closed in all alternatives for not having an identified motorized public purpose and need, or for having significant resource concerns. None of these routes were designated for OHV use in the past.

## C.10 FREMONT JUNCTION

The Fremont Junction area is made up of unique and scenic geological features. Popular recreation activities within this area are dispersed camping, wood cutting, OHV riding, hunting, wildlife viewing, cultural/historic viewing, scenic viewing, mountain biking, and hiking. On the western side of this area is Fishlake National Forest, and a few of the potential network routes provide access to those National Forest System lands. This area is different from the rest of the TMA because it is at a higher elevation and has dense populations of pinon and juniper trees. This area has received some fuels treatments and is a popular area for the public to cut and collect wood. This is an area where deer and elk winter, so it attracts people for wildlife viewing and hunting. This unit also contains access for cultural/historic viewing opportunities. I-70 makes up the northern boundary of this area and Highway 74 runs near the western edge of the unit. Near those highly traveled highways, there are many dispersed campsites and some undeveloped trailheads and parking areas.

General resources within this geographic area are soils, vegetation, air, water, wildlife, cultural, paleontological, visuals, recreational, grazing, and other natural resources. This geographic area contains portions of the Limestone Cliffs and Rock Canyon lands with wilderness characteristics inventoried units. The National Historic Old Spanish Trail is near the northern boundary of this area. This area also contains habitat for threatened and endangered species such as the Mexican Spotted Owl, San Rafael Cactus, and Last Chance Townsendia.

Evaluated routes within the Fremont Junction route network geographic area: SS6085, SS6086, SS6087, SS6092, SS6106, SS6108, SS6109, SS6110, SS6111, SS6114, SS6116, SS6117, SS6118, SS6121, SS6123, SS6124, SS6125, SS6126, SS6128, SS6129, SS6130, SS6131, SS6132, SS6134, SS6135,

SS6136, SS6138, SS6139, SS6140, SS6141, SS6142, SS6143, SS6144, SS6145, SS6146, SS6147, SS6148, SS6149, SS6150, SS6151, SS6153, SS6154, SS6156, SS6157, SS6158, SS6161, SS6162, SS6163, SS6164, SS6165, SS6166, SS6167, SS6169, SS6171, SS6172, SS6174, SS6176, SS6177, SS6178, SS6180, SS6181, SS6182, SS6183, SS6184, SS6185, SS6187, SS6188, SS6189, SS6190, SS6191, SS6192, and SS6193.

The Freemont Junction Area is approximately 25,090 acres.

### **Freemont Junction**

Total Miles: 43

Alt A	Miles	Alt B	Miles	Alt C	Miles	Alt D	Miles	Alt E	Miles
Open to all use	14	Open to all use	15	Open to all use	31	Open to all use	40	Open to all use	33
Limited by season	24	Closed	28	Limited to vehicles less than 66"	1	Closed	3	Closed	9
Closed	4			Closed	11				

Alternative A would keep 4 miles (9%) of the evaluated routes in this area closed and keep 24 miles (56%) limited.

Alternative B would close 28 miles (65%) of the evaluated routes.

Alternative C would close 11 miles (26%) of the evaluated routes and limit 1 mile (2%).

Alternative D would close 3 miles (7%) of the evaluated routes.

Alternative E would close 9 miles (21%) of the evaluated routes.

In addition to the evaluated routes, there were 6 miles of originally inventoried routes in this route network geographic area that were removed from consideration in the EA because they were closed in all alternatives for not having an identified motorized public purpose and need, or for having significant resource concerns. None of these routes were designated for OHV use in the past.

## **C.11 FRONT OF THE REEF**

The Front of the Reef area is made up of unique and scenic geologic features. Popular recreation activities within this area are canyoneering, hiking, rockhounding, cultural/historic viewing, dispersed camping, climbing, OHV riding, wildlife viewing, hunting, and photography. On its southwestern end, this geographic area contains a part of the congressionally designated San Rafael Swell Recreation Area. The San Rafael Reef Wilderness Area, which contains the Reef itself, comprises the western half of this area. The route network provides access to several undeveloped trailheads that access that Wilderness Area, including Eardly Canyon, Ernie Canyon, Old Women Wash, and several others. The northern portion of this geographic area contains Shadscale Mesa, a portion of the San Rafael River, and it borders the Hatt Ranch Wildlife Management Area. In that portion of the unit are some unique OHV opportunities that tie in with other route network geographic areas such as the San Rafael Desert and the Buckmaster and Black Dragon areas. Rockhounding is a popular activity in this area because it is easy to access and contains a variety of agate and other rocks. The San Rafael Reef is much steeper on the north end of this unit, so it also provides photo opportunities and contains dozens of climbing routes. The entire route network geographic area provides access to historic features such as mines and other cultural sites. The San Rafael Reef contains several hiking options and canyoneering routes varying in difficulty. This area is used for commercial tours and guided canyoneering. Under the current travel plan (Alternative A) the north and south parts of this unit are not connected by designated routes, and Highway 24 needs to be used to get from one end to the other. Under Alternatives C and D, old existing roads would be opened that would

allow for OHVs to travel through the entire route network geographic area safely and legally, eventually making a large OHV loop opportunity completely around the San Rafael Reef Wilderness Area. Under Alternatives A, B, and E, this area would primarily be used by people seeking non-motorized activities. There are a few routes in this route network geographic area that provide connections into the adjacent San Rafael Desert TMA and even a couple locations where underpasses can be used by OHVs to provide for a safe way to cross the highway.

General resources within this geographic area are soils, vegetation, air, water, wildlife, cultural, paleontological, visuals, recreational, grazing, and other natural resources. This geographic area contains portions of the San Rafael Reef Wilderness and portions of the San Rafael Reef lands with wilderness characteristics inventoried unit, and San Rafael Reef North ACEC. This area also contains habitat for threatened and endangered species such as the Mexican Spotted Owl, Yellow-billed Cuckoo, Barnaby Reed Mustard, Jones Cycladenia, San Rafael Cactus, and Last Chance Townsendia, and Ute Ladies'-Tresses.

Evaluated routes within the Front of the Reef route network geographic area: SS2381, SS2412, SS2419, SS2420, SS2421, SS2422, SS2425, SS2426, SS2430, SS2431, SS2433, SS2434, SS2435, SS2437, SS2441, SS2442, SS2443, SS2445, SS2452, SS2453, SS2454, SS2455, SS2456, SS2457, SS2458, SS2461, SS2464, SS2465, SS2466, SS2467, SS2469, SS2470, SS2471, SS2472, SS2474, SS2475, SS2476, SS2477, SS2479, SS2479A, SS2481, SS2489, SS2490, SS2491, SS2492, SS2495, SS2496, SS2497, SS2498, SS2502, SS2503, SS2505, SS2506, SS2508, SS2508A, SS2510, SS2512, SS2514, SS2515, SS2520, SS2521, SS2522, SS2523, SS2524, SS2525, SS2526, SS2527, SS2529, SS2530, SS2530A, SS2531, SS2533, SS2536, SS2537, SS2539, SS2540, SS2550, SS2552, SS2553, SS2554, SS2555, SS2557, SS2559, SS2560, SS2562, and SS2571.

The Front of the Reef Area is approximately 72,461 acres.

#### **Front of the Reef**

Total Miles: 76

Alt A	Miles	Alt B	Miles	Alt C	Miles	Alt D	Miles	Alt E	Miles
Open to all use	52	Open to all use	37	Open to all use	65	Open to all use	74	Open to all use	44
Closed	24	Closed	39	Closed	12	Closed	2	Closed	32

Alternative A would keep 24 miles (32%) of the evaluated routes in this area closed.

Alternative B would close 39 miles (51%) of the evaluated routes.

Alternative C would close 12 miles (16%) of the evaluated routes.

Alternative D would close 2 miles (3%) of the evaluated routes.

Alternative E would close 32 miles (42%) of the evaluated routes.

In addition to the evaluated routes, there were 37 miles of originally inventoried routes in this route network geographic area that were removed from consideration in the EA because they were closed in all alternatives for not having an identified motorized public purpose and need, or for having significant resource concerns. None of these routes were designated for OHV use in the past.

## **C.12 GRASSY TRAILS**

The Grassy Trails area is made up of rolling hills and benches, similar to the Mounds route network geographic area, though Grassy Trail Creek runs through it and provides different opportunities. Some of the most popular recreational activities in this area are OHV riding, cultural/historic viewing, hunting,

horse riding, and hiking. Many people use routes in this area to create loop opportunities, to access vistas that overlook the Price River, to disperse camp, or to access undeveloped parking areas near hiking and horseback riding opportunities along the river or creek. In the center of this area is the Grassy Trail Rock Art ACEC where rock imagery can be viewed. In addition, there is an old railroad grade that diverts from the Price River and follows along Grassy Trail Creek. There are remnants of old buildings and wells near the confluence that people enjoy visiting and looking at. This area provides the only Price River crossing for OHVs to directly access the Chimney Rock/Humbug route network system to the south. This currently designated but unimproved river crossing is a crucial OHV connection between route network geographic areas; without the river crossing and connection, OHV users wishing to access the Chimney Rock/Humbug area would be required to load on trailers and travel on Highway 24 to the bridge at Woodside, and then unload again.

General resources within this geographic area are soils, vegetation, air, water, wildlife, cultural, paleontological, visuals, recreational, grazing, and other natural resources. This geographic area contains a portion of the Price River lands with wilderness characteristics inventoried unit, and contains the entire Grassy Trail rock art ACEC. This area also contains habitat for threatened and endangered species such as the Mexican Spotted Owl, Yellow-billed Cuckoo, Barnaby Reed Mustard, Jones Cycladenia, San Rafael Cactus, Ute Ladies'-Tresses, and Colorado Pikeminnow.

Evaluated routes within the Grassy Trails route network geographic area: SS1115, SS1116, SS1117, SS1121, SS1122, SS1125, SS1126, SS1128, SS1131, SS1132, SS1133, SS1136, SS1141, SS1143, SS1144, SS1145, SS1146, SS1147, SS1148, SS1149, SS1151, SS1152, SS1157, SS1159, SS1160, SS1161, SS1163, SS1164, SS1165, SS1167, SS1168, SS1169, SS1171, SS1172, SS1173, SS1174, SS1176, SS1177, SS1179, SS1413, SS1414, SS1415, SS1418, SS1419, SS1420, SS1423, SS1430A, SS1431, SS1432, SS1433, SS1450, SS1452, SS1453, SS1455, SS1456, SS1457, and SS1458.

The Grassy Trails Area is approximately 14,438 acres.

#### **Grassy Trails**

Total Miles: 44

Alt A	Miles	Alt B	Miles	Alt C	Miles	Alt D	Miles	Alt E	Miles
Open to all use	14	Open to all use	12	Open to all use	29	Open to all use	42	Open to all use	18
Closed	29	Closed	32	Limited to vehicles less than 66"	1	Limited to vehicles less than 66"	1	Limited to vehicles less than 66"	3
				Closed	14	Closed	0.4	Closed	22

Alternative A would keep 29 miles (66%) of the evaluated routes in this area closed.

Alternative B would close 32 miles (73%) of the evaluated routes.

Alternative C would close 14 miles (32%) of the evaluated routes and limit 1 mile (2%).

Alternative D would close 0.4 miles (1%) of the evaluated routes and limit 1 mile (2%).

Alternative E would close 22 miles (50%) of the evaluated routes and limit 3 miles (7%).

In addition to the evaluated routes, there were 7 miles of originally inventoried routes in this route network geographic area that were removed from consideration in the EA because they were closed in all alternatives for not having an identified motorized public purpose and need, or for having significant resource concerns. None of these routes were designated for OHV use in the past.

### **C.13 HUMBUG / CHIMNEY ROCK**

The Humbug/Chimney Rock area is made up of unique geologic formations and diverse scenery, including red rock cliffs, large valley flats, conglomerate rock slopes, and several small canyons. Popular recreation activities within this area are motorcycle riding, UTV riding, driving for pleasure, cultural/historic viewing, geology viewing, dispersed camping, hunting, horseback riding, and some occasional mountain biking and hiking. This route network geographic area is the northern portion of the Summerville/Chimney Rock/Humbug trail system that was designated in the 2008 Price RMP, which provides guidance to manage this area for OHV recreation opportunities due to the public interest and the density of existing OHV trails in this area. This area provides several unique and challenging trail experiences that experienced OHV users seek. There are also some easier loop systems, such as the Humbug/Chimney Rock loop, that the BLM maintains to provide a variety of opportunities. In addition to the potential network routes in this area, there is also an expansive single-track motorcycle trail system. Several of these single-track trail systems are used for enduro style motorcycle races that started decades ago and are still permitted regularly. In addition, there are several other special recreation permits for authorized OHV events and guided tours in this area. The Price River on the north end of this area was an historic travel route, and remnants of old wagon roads and historic cabins can be viewed. The area also contains historic remnants of mining exploration and historic grazing features and camps. Several routes in this area serve as connectors into other route network geographic areas such as the Grassy Trails, Chimney Rock/Humbug, and the South Jurassic/Flat top areas, as well as the other half of the Chimney Rock Trail system to the south, which is outside this TMA planning boundary.

General resources within this geographic area are soils, vegetation, air, water, wildlife, cultural, paleontological, visuals, recreational, grazing, and other natural resources. This geographic area contains a the Never Sweat Wash lands with wilderness characteristics inventoried unit. This area also contains habitat for threatened and endangered species such as the Mexican Spotted Owl, Yellow-billed Cuckoo, Barnaby Reed Mustard, Jones Cycladenia, San Rafael Cactus, Ute Ladies'-Tresses, and Colorado Pikeminnow.

Evaluated routes within the Humbug/Chimney Rock route network geographic area: SS1096, SS1097, SS1101, SS1102, SS1103, SS1104, SS1105, SS1106, SS1108, SS1109, SS1110, SS1111, SS1112, SS1113, SS1405, SS1406, SS1459, SS1460, SS1461, SS1462, SS1463, SS1464, SS1465, SS1466, SS1467, SS1468, SS1469, SS1471, SS1472, SS1473, SS1474, SS1476, SS1477, SS1478, SS1481, SS1482, SS1483, SS1484, SS1485, SS1486, SS1487, SS1487, SS1489, SS1490, SS1491, SS1492, SS1493, SS1494, SS1495, SS1496, SS1496A, SS1497, SS1498, SS1499, SS1500, SS1501, SS1503, SS1506, SS1510, SS1511, SS1512, SS1515, SS1516, SS1522, SS1525, SS1526, SS1527, SS1530, SS1530A, SS1531, SS1532, SS1532A, SS1533, SS1533A, SS1534, SS1534A, SS1534A, SS1534A, SS1535, SS1536, SS1539, SS1539A, SS1541, SS1542, SS1543, SS1544, SS1545, SS1547, SS1547A, SS1547B, SS1548, SS1551, SS1552, SS1553, SS1554, SS1555, SS1556, SS1561, and SS1562.

The Humbug/Chimney Rock Area is approximately 51,005 acres.

**Humbug/Chimney Rock****Total Miles:** 151

<b>Alt A</b>	<b>Miles</b>	<b>Alt B</b>	<b>Miles</b>	<b>Alt C</b>	<b>Miles</b>	<b>Alt D</b>	<b>Miles</b>	<b>Alt E</b>	<b>Miles</b>
Open to all use	112	Open to all use	33	Open to all use	71	Open to all use	91	Open to all use	62
Closed	39	Limited to vehicles less than 66"	3	Limited to vehicles less than 66"	3	Limited to vehicles less than 66"	3	Limited to vehicles less than 66"	2
		Limited to single-track vehicles	11	Limited to single-track vehicles	39	Limited to single-track vehicles	46	Limited to single-track vehicles	32
		Closed	105	Closed	39	Closed	11	Closed	55

Alternative A would keep 39 miles (26%) of the evaluated routes in this area closed.

Alternative B would close 105 miles (70%) of the evaluated routes and limit 14 miles (9%).

Alternative C would close 39 miles (26%) of the evaluated routes and limit 42 miles (28%).

Alternative D would close 11 miles (7%) of the evaluated routes and limit 49 miles (32%).

Alternative E would close 55 miles (36%) of the evaluated routes and limit 34 miles (23%).

In addition to the evaluated routes, there were 26 miles of originally inventoried routes in this route network geographic area that were removed from consideration in the EA because they were closed in all alternatives for not having an identified motorized public purpose and need, or for having significant resource concerns. None of these routes were designated for OHV use in the past.

**C.14 LIMESTONE CLIFFS**

The Limestone Cliffs area is made up of unique and scenic geological features. Popular recreation activities within this area are scenic viewing, wildlife viewing, geologic viewing, hunting, OHV riding, dispersed camping, cultural/historic viewing, rockhounding, mountain biking, bikepacking, and hiking. On the western side of this area is Fishlake National Forest, and a few of the potential network routes provide access to the National Forest System. Capital Reef National Park is also on the southern boundary of this area. The Baker's Ranch is a large private ranch located in the southwest corner of this area. This geographic area is also a place where deer and elk winter, which attracts people for wildlife viewing and hunting. This area also accesses cultural/historic viewing and rockhounding opportunities.

General resources within this geographic area are soils, vegetation, air, water, wildlife, cultural, paleontological, visuals, recreational, grazing, and other natural resources. This geographic area contains the Jones Bench BLM Natural Area and a portion of the Limestone Cliffs lands with wilderness characteristics inventoried unit. This area also contains habitat for threatened and endangered species such as the Mexican Spotted Owl, Barnaby Reed Mustard, Last Chance Townsendia, San Rafael Cactus, Winkler Cactus, Wright Fishhook Cactus, and Ute Ladies'-Tresses.

Evaluated routes within the Limestone Cliffs route network geographic area: SS6001, SS6002, SS6003, SS6004, SS6005, SS6006, SS6009, SS6010, SS6011, SS6031, SS6033, SS6035, SS6036, SS6037, SS6038, SS6039, SS6041, SS6042, SS6044, SS6047, SS6049, SS6049A, SS6050, SS6051, SS6052, SS6053, SS6054, SS6055, SS6056, SS6057, SS6058, SS6059, SS6060, SS6061, SS6062, SS6063, SS6064, SS6065, SS6066, SS6071, SS6073, and SS6077.

The Limestone Cliffs Area is approximately 24,483 acres.

**Limestone Cliffs****Total Miles:** 42

<b>Alt A</b>	<b>Miles</b>	<b>Alt B</b>	<b>Miles</b>	<b>Alt C</b>	<b>Miles</b>	<b>Alt D</b>	<b>Miles</b>	<b>Alt E</b>	<b>Miles</b>
Open to all use	27	Open to all use	15	Open to all use	28	Open to all use	30	Open to all use	24
Limited by season	11	Closed	26	Closed	14	Closed	12	Closed	17
Closed	3								

Alternative A would keep 3 miles (7%) of the evaluated routes in this area closed and limit 11 miles (26%).

Alternative B would close 26 miles (62%) of the evaluated routes.

Alternative C would close 14 miles (33%) of the evaluated routes.

Alternative D would close 12 miles (29%) of the evaluated routes.

Alternative E would close 17 miles (40%) of the evaluated routes.

In addition to the evaluated routes, there were 5 miles of originally inventoried routes in this route network geographic area that were removed from consideration in the EA because they were closed in all alternatives for not having an identified motorized public purpose and need, or for having significant resource concerns. None of these routes were designated for OHV use in the past.

**C.15 MOORE CUTOFF / DUTCH FLATS**

The Moore Cutoff/Dutch Flats area is made up of unique geologic layers that run north-south through its landscape. Popular recreation activities within this area are OHV riding, dispersed camping, cultural/historic viewing, geology viewing, hunting, hiking, and horseback riding. There are several scenic OHV loop opportunities in this route network geographic area. This network provides easily accessible camping and OHV opportunities close to the local communities of Ferron and Emery. The OHV loops in this route network geographic area are typically easier routes but still provide a backcountry experience. This geographic area has several Rock Art ACECs with well-known and frequently visited rock imagery sites. Dispersed campsites can be found throughout this geographic area but are more concentrated on the north and south boundary roads. One popular site is the Snake Pictograph Panel in the southwest corner of this area where recreationists can find rock imagery, historic Civilian Conservation Corps inscriptions, and dinosaur tracks all within proximity of each other. Another popular site is Sid and Charley, a free-standing geologic feature that was named after some of the first people to graze livestock in this area.

General resources within this geographic area are soils, vegetation, air, water, wildlife, cultural, paleontological, visuals, recreational, grazing, and other natural resources. This geographic area contains no lands with wilderness characteristics inventoried units. This area does contain the North Salt Wash, Dry Wash, Short Canyon, Molen Seep, and Kings Crown Rock Art ACECs. This area also contains habitat for threatened and endangered species such as the Mexican Spotted Owl, Barnaby Reed Mustard, Last Chance Townsendia, San Rafael Cactus, Wright Fishhook Cactus, and Ute Ladies'-Tresses.

Evaluated routes within the Limestone Cliffs route network geographic area: SS3239, SS3338, SS3339, SS3341, SS3342, SS3343, SS3345, SS3346, SS3350, SS3352, SS3353, SS3354, SS3355, SS3356, SS3357, SS3366, SS3367, SS3368, SS3370, SS3371, SS3374, SS3375, SS3376, SS3377, SS3378, SS3379, SS3380, SS3381, SS3382, SS3383, SS3384, SS3388, SS3389, SS3392, SS3394, SS3396, SS3397, SS3398, SS3399, SS3402, SS3403, SS3404, SS3405, SS3406, SS3409, SS3413, SS3414,

SS3415, SS3416, SS3419, SS3420, SS3421, SS3422, SS3424, SS3425, SS3426, SS3427, SS3430, SS3431, SS3434, SS3435, SS3437, SS3438, SS3439, SS3440, SS3441, SS3442, SS3443, SS3444, SS3446, SS3447, SS3448, SS3449, SS3450, SS3451, SS3453, SS3454, SS3455, SS3456, SS3457, SS3462, SS3463, SS3464, SS3467, SS3468, SS3469, SS3472, SS3474, SS3475, SS3476, SS3478, SS3479, SS3481, SS3482, SS3484, SS3485, SS3488, SS3489, SS3490, SS3492, SS3493, SS3494, SS3495, SS3496, SS3497, SS3498, SS3499, SS3500, SS3501, SS3503, SS3504, SS3505, SS3506, SS3507, SS3508, SS3509, SS3510, SS3511, SS3512, SS3513, SS3514, SS3515, SS3516, SS3517, SS3522, SS3523, SS3527, SS3528, SS3529, SS3530, and SS3531.

The Moore Cutoff/Dutch Flats is approximately 52,333 acres.

**Moore Cutoff/Dutch Flats**

Total Miles: 110

Alt A	Miles	Alt B	Miles	Alt C	Miles	Alt D	Miles	Alt E	Miles
Open to all use	48	Open to all use	45	Open to all use	86	Open to all use	108	Open to all use	62
Closed	62	Closed	65	Limited to vehicles less than 66"	3	Closed	2	Closed	48
				Closed	21				

Alternative A would keep 62 miles (56%) of the evaluated routes in this area closed.

Alternative B would close 65 miles (59%) of the evaluated routes.

Alternative C would close 21 miles (19%) of the evaluated routes and limit 3 miles (3%).

Alternative D would close 2 miles (2%) of the evaluated routes.

Alternative E would close 48 miles (44%) of the evaluated routes.

In addition to the evaluated routes, there were 13 miles of originally inventoried routes in this route network geographic area that were removed from consideration in the EA because they were closed in all alternatives for not having an identified motorized public purpose and need, or for having significant resource concerns. None of these routes were designated for OHV use in the past.

## C.16 MOUNDS

The Mounds area is mostly made up of rolling hills and benches. Popular recreational activities in this area are OHV riding, hunting, rock hounding, horse riding, hiking, and cultural/historic viewing. In the northeast corner of this area near the Mounds Bridge where the main route crosses the Price River is a large group dispersed camping site. This group site provides camping in the vicinity of communities such as Price, Wellington, Elmo, and Cleveland. Many recreationists use the routes in this route network geographic area for loop opportunities, to access vistas that overlook the Price River, to dispersed camp, or to access undeveloped parking areas near hiking opportunities. The eastern side of this area has a Price River LWC unit, where visitors can experience naturalness, solitude, and unconfined recreation opportunities. On the southwest end of this area near the Price River are historic remnants of old wagon roads, cabins, and ranches. One attraction is the Marsing Ranch; this site is on TLA property but can be accessed via an old stock trail that is also currently managed to provide a challenging motorcycle trail opportunity. The first half of that motorcycle trail also provides connectivity across the Price River and provides access to other route network geographic areas for larger loop opportunities. In addition to that single track, there are a handful of other challenging OHV trails that tie into other route network geographic areas such as Grassy Trails, Chimney Rock/Humbug, and South Jurassic/Flat Top.

General resources within this geographic area are soils, vegetation, air, water, wildlife, cultural, paleontological, visuals, recreational, grazing, and other natural resources. This geographic area contains a portion of the Price River lands with wilderness characteristics inventoried unit. This area also contains habitat for threatened and endangered species such as the Mexican Spotted Owl, Yellow-billed Cuckoo, Colorado Pikeminnow, Barnaby Reed Mustard, Jones Cycladenia, San Rafael Cactus, and Ute Ladies'-Tresses.

Evaluated routes within the Mounds route network geographic area: SS1235, SS1303, SS1332, SS1333, SS1335, SS1336, SS1337, SS1339, SS1340, SS1341, SS1342, SS1343, SS1344, SS1346, SS1347, SS1348, SS1349, SS1350, SS1353, SS1354, SS1355, SS1356, SS1357, SS1361, SS1362, SS1363, SS1363A, SS1364, SS1366, SS1368, SS1369, SS1372, SS1376, SS1377, SS1378, SS1379, SS1380, SS1381, SS1383, SS1385, SS1386, SS1389, SS1390, SS1391, SS1392, SS1393, SS1395, SS1396, SS1398, SS1399, SS1401, SS1403, SS1404, SS1408, SS1409, SS1410, SS1424, SS1425, SS1426, SS1427, SS1429, SS1430, SS1434, SS1436, SS1442, SS1443, and SS1445.

The Mounds area is approximately 21,079 acres.

### **Mounds**

Total Miles: 69

Alt A	Miles	Alt B	Miles	Alt C	Miles	Alt D	Miles	Alt E	Miles
Open to all use	39	Open to all use	36	Open to all use	50	Open to all use	63	Open to all use	44
Closed	31	Closed	34	Limited to vehicles less than 66"	0.6	Limited to single-track vehicles	5	Closed	26
				Limited to single-track vehicles	5	Closed	1		
				Closed	13				

Alternative A would keep 31 miles (45%) of the evaluated routes in this area closed.

Alternative B would close 34 miles (49%) of the evaluated routes.

Alternative C would close 13 miles (19%) of the evaluated routes and limit 6 miles (8%).

Alternative D would close 1 mile (1%) of the evaluated routes and limit 5 miles (7%).

Alternative E would close 26 miles (38%) of the evaluated routes.

In addition to the evaluated routes, there were 9 miles of originally inventoried routes in this route network geographic area that were removed from consideration in the EA because they were closed in all alternatives for not having an identified motorized public purpose and need, or for having significant resource concerns. None of these routes were designated for OHV use in the past.

## **C.17 MUSSENTUCHIT / LAST CHANCE**

The Mussentuchit/Last Chance area is made up of unique and scenic geologic features. Popular recreation activities within this area are scenic viewing, wildlife viewing, geologic viewing, hunting, hiking, OHV riding, dispersed camping, cultural/historic viewing, rockhounding, mountain biking, and backpacking. This geographic area contains a part of the congressionally designated San Rafael Swell Recreation Area in the southeastern corner before the Wilderness boundary. This is a larger route network geographic area and has a lower density of routes compared to other route networks. The southern and western edges of this geographic area are the Muddy Creek and Lower Last Chance Wilderness Areas. Several of the routes in this network provide access to these Wilderness Areas including undeveloped trailheads such as

Seger Hole, Chimney Canyon, Muddy Creek, and Morini Slopes. This route network geographic area also provides access to other areas outside Wilderness such as the Mussentuchit Sand Dune, Mussentuchit Wash, the Cedar Mountains, Hebes Mountain, and even a road that leads to the backside of Capital Reef National Park. This area is also frequented by desert bighorn sheep and other wildlife that people enjoy watching and hunting. This is an area within the TMA that is far away from the highways and communities, and because of that, there is less visitation, providing for a more backcountry experience with greater chances to find solitude even near the maintained roads.

General resources within this geographic area are soils, vegetation, air, water, wildlife, cultural, paleontological, visuals, recreational, grazing, and other natural resources. This geographic area contains the entire Lower Last Chance Wilderness, and a portion of the Muddy Creek Wilderness. It contains the Mussentuchit Badland, the Cedar Mountain, and a portion of the Muddy Creek Crack Canyon lands with wilderness characteristics inventoried units. This area contains a portion of the Segars Hole and Muddy Creek ACES's. This area also contains habitat for threatened and endangered species such as the Mexican Spotted Owl, Barnaby Reed Mustard, Jones Cycladenia, Last Chance Townsendia, San Rafael Cactus, Winkler Cactus, Wright Fishhook Cactus, and Ute Ladies'-Tresses.

Evaluated routes within the Mussentuchit/Last Chance route network geographic area: SS5089, SS5090, SS5091, SS5092, SS5093, SS5095, SS5098, SS5099, SS5100, SS5101, SS5102, SS5103, SS5127, SS5128, SS5129, SS5130, SS5131, SS5132, SS5133, SS5134, SS5135, SS5136, SS5138, SS5139, SS5140, SS5143, SS5144, SS5145, SS5146, SS5147, SS5148, SS5149, SS5150, SS5152, SS5155, SS5156, SS5158, SS5159, SS5160, SS5162, SS5164, SS5167, SS5168, SS5169, SS5170, SS5171, SS5173, SS5174, SS5175, SS5176, SS5177, SS5178, SS5185, SS5389, SS5389A, SS5390, SS5391, SS5392, SS5393, SS5394, SS5395, SS5396, SS5398, SS5402, SS5407, SS5408, SS5409, SS5411, SS5414, SS5415, SS5416, SS5420, SS6007, SS6008, SS6012, SS6017, SS6019, SS6022, SS6023, SS6029, SS6075, and SS6076.

The Mussentuchit/Last Chance area is approximately 153,223 acres.

**Mussentuchit/Last Chance**

Total Miles: 127

Alt A	Miles	Alt B	Miles	Alt C	Miles	Alt D	Miles	Alt E	Miles
Open to all use	85	Open to all use	73	Open to all use	96	Open to all use	126	Open to all use	91
Closed	42	Closed	54	Limited to vehicles less than 66"	4	Closed	1	Closed	36
				Closed	28				

Alternative A would keep 42 miles (33%) of the evaluated routes in this area.

Alternative B would close 54 miles (43%) of the evaluated routes.

Alternative C would close 28 miles (22%) of the evaluated routes and limit 4 miles (3%).

Alternative D would close 1 mile (1%) of the evaluated routes.

Alternative E would close 36 miles (28%) of the evaluated routes.

In addition to the evaluated routes, there were 25 miles of originally inventoried routes in this route network geographic area that were removed from consideration in the EA because they were closed in all alternatives for not having an identified motorized public purpose and need, or for having significant resource concerns. None of these routes were designated for OHV use in the past.

## **C.18 NORTH JURASSIC / FLAT TOP**

The North Jurassic/Flat Top area is characterized by unique geology. The west half is made up of rolling hills and benches like the Mounds area, and the east half consists of Flat Top Mountain. Near the mid-southern end of this area is Jurassic National Monument, which contains the densest concentration of Jurassic-aged dinosaur bones ever discovered. Excavations continue to take place each year. The Cleveland Lloyd Dinosaur Quarry was the first BLM visitor center ever built. In 2007 it was upgraded to a larger facility with improved exhibits. In 2019 it was designated as a National Monument and is continuing to be updated and improved, including the improvements to some interpretive hiking trails to view more fossils and bones beyond what can be seen in the visitor center and quarry buildings. Other popular recreation activities within this route network geographic area are geology viewing, dispersed camping, OHV riding, hunting, bouldering, hiking, cultural/historic viewing, and horseback riding. This route network geographic area accesses many dispersed camping opportunities near communities such as Cleveland, Elmo, and Price. There are several OHV loop opportunities north of the monument that provide half-day loops that locals can access directly from their homes. There is one route that climbs up onto the flat tops, and along that route are appealing overlooks of the Price River and the red rocks of Humbug Canyon. The Price River on the northeast end of this area was an historic travel route, and remnants of historic wagon roads, cabins, and ranches can be viewed. Flat Top Mountain also has remnants of abandoned mining activities. Two single-track trails provide motorcycle loop connections, one that crosses the Price River near the Marsing Ranch trail, and another route on the east side of Flattop Mountain; both are challenging trails that provide a unique experience and create larger loop opportunities.

General resources within this geographic area are soils, vegetation, air, water, wildlife, cultural, paleontological, visuals, recreational, grazing, and other natural resources. This area contains the Jurassic National Monument, the Cleveland Lloyd Dinosaur Quarry National Natural Landmark, and the Cleveland Lloyd Dinosaur Quarry ACEC. This geographic area contains no lands with wilderness characteristics inventoried units. This area also contains habitat for threatened and endangered species such as the Mexican Spotted Owl, Yellow-billed Cuckoo, Colorado Pikeminnow, Barnaby Reed Mustard, Jones Cycladenia, San Rafael Cactus, and Ute Ladies'-Tresses.

Evaluated routes within the North Jurassic/Flat Top route network geographic area: SS1001, SS1002, SS1003, SS1005, SS1006, SS1007, SS1008, SS1009, SS1010, SS1011, SS1012, SS1015, SS1016, SS1017, SS1018, SS1019, SS1020, SS1021, SS1023, SS1051, SS1181, SS1182, SS1183, SS1184, SS1224, SS1225, SS1227, SS1228, SS1229, SS1232, SS1233, SS1234, SS1234A, SS1236, SS1237, SS1238, SS1239, SS1240, SS1241, SS1242, SS1243, SS1244, SS1245, SS1246, SS1247, SS1248, SS1250, SS1251, SS1252, SS1253, SS1254, SS1255, SS1257, SS1259, SS1260, SS1261, SS1262, SS1263, SS1264, SS1265, SS1266, SS1272, SS1273, SS1274, SS1275, SS1276, SS1277, SS1278, SS1279, SS1280, SS1281, SS1282, SS1283, SS1285, SS1286, SS1288, SS1289, SS1291, SS1292, SS1293, SS1294, SS1295, SS1297, SS1298, SS1299, SS1300, SS1301, SS1302, SS1305, SS1307, SS1308, SS1310, SS1311, SS1312, SS1314, SS1315, SS1316, SS1318, SS1319, SS1320, SS1321, SS1325, SS1327, SS1328, SS1329, SS1331, SS1566, and SS1568.

The North Jurassic/Flat Top area is approximately 39,563 acres.

**North Jurassic/Flat Top**Total Miles: 99

<b>Alt A</b>	<b>Miles</b>	<b>Alt B</b>	<b>Miles</b>	<b>Alt C</b>	<b>Miles</b>	<b>Alt D</b>	<b>Miles</b>	<b>Alt E</b>	<b>Miles</b>
Open to all use	48	Open to all use	36	Open to all use	75	Open to all use	91	Open to all use	63
Limited by season	1	Limited by season	1	Limited by season	1	Limited to vehicles less than 66"	5	Limited by season	1
Closed	50	Closed	61	Closed	23	Closed	2	Closed	35

Alternative A would keep 50 miles (51%) of the evaluated routes in this area closed and keep 1 mile (1%) limited.

Alternative B would close 61 miles (62%) of the evaluated routes and limit 1 mile (1%).

Alternative C would close 23 miles (23%) of the evaluated routes and limit 1 mile (1%).

Alternative D would close 2 miles (2%) of the evaluated routes and limit 5 miles (5%).

Alternative E would close 35 miles (35%) of the evaluated routes and limit 1 mile (1%).

In addition to the evaluated routes, there were 8 miles of originally inventoried routes in this route network geographic area that were removed from consideration in the EA because they were closed in all alternatives for not having an identified motorized public purpose and need, or for having significant resource concerns. None of these routes were designated for OHV use in the past.

**C.19 SIDS MOUNTAIN / WIKIUP**

The Sids Mountain area is made up of towering cliffs, unique geological features, and large washes/canyons. Popular recreation activities within this area are OHV riding, dispersed camping, cultural/historic viewing, geologic viewing, scenic viewing, wildlife viewing, hunting, hiking, horseback riding, mountain biking, and backpacking. This geographic area contains a part of the congressionally designated San Rafael Swell Recreation Area. This route network geographic area provides access to some of the most scenic and challenging trails in the entire TMA. The Sids Mountain Trail System is made up of popular OHV routes including Devils Racetrack, Eva Conover, Fixit Pass, Cane Wash, Coal Wash, etc. Most of these listed routes are boundary routes to the Wilderness Areas and provide remote OHV access into/across the backcountry. These routes are frequently used for commercial tours and permitted events each year. In addition to the OHV destination routes, many of these potential network routes also provide access to Wilderness trailheads such as Salt Wash, Saddle Horse Canyon, Sids Mountain, ZCMI mine, etc. The Wikiup area provides several more OHV loop options and connects these more remote/backcountry trails to more easily accessible OHV trailheads and dispersed camping areas located near Exit 131 of I-70. The Wikiup/Juniper area is listed as a large group site in the 2008 Price RMP and has been used that way for decades. Another large group site in the unit is Horn Silver Gulch/Bellview Flats, which also serves as another trailhead and dispersed camping area located in the northwestern part of this area. The northeastern end of this area has several old uranium mining development sites at which mining equipment can be viewed. Towards the southern end of this area, visitors can view the Dutchman's Arch and the Head of Sinbad rock imagery panels. Other key geologic features that can be viewed from routes in the central part of the area are the massive Slipper Arch, the Blocks, Twin Priests, Joe and His Dog, Devils Monument, and many other unnamed features and arches. Beyond the scenic quality of the area, these potential network routes also provide more challenging OHV loop opportunities for those who seek rocky/difficult trail experiences. This area is also frequented by desert bighorn sheep and other wildlife that people enjoy watching and hunting.

General resources within this geographic area are soils, vegetation, air, water, wildlife, cultural, paleontological, visuals, recreational, grazing, and other natural resources. This area contains the Sids Mountain, Cold Wash, and Eagle Canyon Wilderness Areas. This geographic area contains the Sids Draw, and portions of the Sids Mountain lands with wilderness characteristics inventoried units. This area contains a portion of the I-70 Scenic ACEC. This area also contains habitat for threatened and endangered species such as the Mexican Spotted Owl, Yellow-billed Cuckoo, Barnaby Reed Mustard, Jones Cycladenia, Last Chance Townsendia, San Rafael Cactus, Wright Fishhook Cactus, and Ute Ladies'-Tresses.

Evaluated routes within the Sids Mountain/Wikiup route network geographic area: SS2817, SS2819, SS3008, SS3009, SS3010, SS3011, SS3012, SS3013, SS3015, SS3016, SS3017, SS3018, SS3019, SS3020, SS3021, SS3022, SS3023, SS3025, SS3026, SS3029, SS3032, SS3033, SS3035, SS3036, SS3037, SS3038, SS3039, SS3040, SS3041, SS3042, SS3043, SS3044, SS3045, SS3047, SS3048, SS3049, SS3050, SS3052, SS3053, SS3054, SS3056, SS3058, SS3059, SS3060, SS3061, SS3064, SS3065, SS3068, SS3069, SS3070, SS3071, SS3072, SS3074, SS3075, SS3076, SS3078, SS3080, SS3081, SS3083, SS3083A, SS3090, SS3240, SS3241, SS3242, SS3243, SS3244, SS3245, SS3252, SS3255, SS3256, SS3257, SS3260, SS3262, SS3264, SS3268, SS3269, SS3270, SS3271, SS3272, SS3273, SS3274, SS3275, SS3276, SS3277, SS3278, SS3279, SS3280, SS3281, SS3283, SS3284, SS3285, SS3286, SS3290, SS3292, SS3293, SS3294, SS3295, SS3297, SS3298, SS3299, SS3302, SS3303, SS3304, SS3305, SS3306, SS3307, SS3308, SS3314, SS3316, SS3317, SS3318, SS3320, SS3322, SS3323, SS3327, SS3328, SS3329, SS3330, SS3331, SS3332, SS3333, SS3334, SS3335, SS3359, SS3361, and SS7000.

The Sids Mountain/Wikiup area is approximately 148,336 acres.

#### **Sids Mountain/Wikiup**

Total Miles: 170

Alt A	Miles	Alt B	Miles	Alt C	Miles	Alt D	Miles	Alt E	Miles
Open to all use	132	Open to all use	127	Open to all use	146	Open to all use	166	Open to all use	135
Closed	38	Closed	43	Limited to vehicles less than 66"	1	Limited to vehicles less than 66"	1	Limited to vehicles less than 66"	1
				Closed	24	Closed	2	Closed	34

Alternative A would keep 38 miles (22%) of the evaluated routes in this area closed.

Alternative B would close 43 miles (25%) of the evaluated routes.

Alternative C would close 24 miles (14%) of the evaluated routes and limit 1 mile (<1%).

Alternative D would close 2 miles (1%) of the evaluated routes and limit 1 mile (<1%).

Alternative E would close 34 miles (20%) of the evaluated routes and limit 1 mile (<1%).

In addition to the evaluated routes, there were 28 miles of originally inventoried routes in this route network geographic area that were removed from consideration in the EA because they were closed in all alternatives for not having an identified motorized public purpose and need, or for having significant resource concerns. None of these routes were designated for OHV use in the past.

## **C.20 SURROUNDING GOBLIN VALLEY**

The area surrounding Goblin Valley is made up of unique and scenic geologic features and surrounds Goblin Valley State Park which attracts hundreds of thousands of visitors every year. Popular recreation

activities within this area are dispersed camping, hiking, canyoneering, cultural/historic viewing, geologic viewing, scenic viewing, horseback riding, OHV riding, hunting, mountain biking, geocaching, and photography. This geographic area contains a part of the congressionally designated San Rafael Swell Recreation Area. The main BLM-managed attraction in this route network geographic area is the Little Wild Horse Slot Canyon as it is the most popular hiking trail in the San Rafael Swell. The BLM-managed South Temple Wash campground is also within this geographic area. When the BLM campground and the state park campgrounds are full, this area receives overflow dispersed camping activities. There are two routes that travel south out of this unit and are critical connections to routes in Wayne County, including the only place in this region that a motorized vehicle can cross Muddy Creek. Many of the potential network routes in this area are boundary roads to Wilderness and provide motorized access to undeveloped trailheads that serve non-motorized activities.

General resources within this geographic area are soils, vegetation, air, water, wildlife, cultural, paleontological, visuals, recreational, grazing, and other natural resources. This area contains the Goblin Valley State Park, as well as the Big Wild Horse, Middle Wild Horse, and a portion of the Muddy Creek Wilderness Areas. This geographic area contains portions of the Wild Horse Mesa and Muddy Creek Crack Canyon lands with wilderness characteristics inventoried units. This area contains a portion of the San Rafael Reef South ACEC. This area also contains habitat for threatened and endangered species such as the Mexican Spotted Owl, Southwest Willow Flycatcher, Barnaby Reed Mustard, Jones Cycladenia, Last Chance Townsendia, San Rafael Cactus, Winkler Cactus, Wright Fishhook Cactus, and Ute Ladies'-Tresses.

Evaluated routes within the Surrounding Goblin Valley route network geographic area: SS4323, SS4324, SS4325, SS4327, SS4328, SS4330, SS4331, SS4332, SS4334, SS4335, SS4336, SS4337, SS4338, SS4339, SS4340, SS4341, SS4342, SS4371, SS4398, SS4423, SS4428, SS4429, SS4430, SS4431, SS4432, SS4433, SS4434, SS4435, SS4436, SS4437, SS4438, SS4439, and SS4440.

The Surrounding Goblin Valley area is approximately 82,417 acres.

**Surrounding Goblin Valley**

**Total Miles:** 38

Alt A	Miles	Alt B	Miles	Alt C	Miles	Alt D	Miles	Alt E	Miles
Open to all use	29	Open to all use	23	Open to all use	31	Open to all use	37	Open to all use	27
Closed	9	Closed	15	Closed	7	Closed	0.9	Closed	12

Alternative A would keep 9 miles (24%) of the evaluated routes in this area closed.

Alternative B would close 15 miles (39%) of the evaluated routes.

Alternative C would close 7 miles (18%) of the evaluated routes.

Alternative D would close 0.9 miles (2%) of the evaluated routes.

Alternative E would close 12 miles (32%) of the evaluated routes.

In addition to the evaluated routes, there were 34 miles of originally inventoried routes in this route network geographic area that were removed from consideration in the EA because they were closed in all alternatives for not having an identified motorized public purpose and need, or for having significant resource concerns. None of these routes were designated for OHV use in the past.

## C.21 SWASEYS CABIN / REDS CANYON

The Swaseys Cabin/Reds Canyon area is made up of towering cliffs, unique geological features, and large washes/canyons. Popular recreation activities within this area are OHV riding, dispersed camping, cultural/historic viewing, geologic viewing, scenic viewing, wildlife viewing, hunting, rockhounding, hiking, horseback riding, mountain biking, backpacking, and occasionally river rafting. This unit contains a part of the congressionally designated San Rafael Swell Recreation Area. This route network geographic area provides access to some of the most popular OHV routes in the TMA. These trails are frequently used for commercial tours and permitted events each year. Some of the OHV destination trails in this area are Eagle Canyon, Swaseys Cabin, Rods Valley, and Reds Canyon Loop. Some of the trails and camping areas in the northern part of this area link with the Sids Mountain trails and provide full-day OHV loop opportunities. Dispersed camping is popular along the north portion of this area for people who are hunting or OHV riding. The southern part of this area mostly consists of Wilderness, but the boundary roads provide crucial access to areas such as Tomsich Butte, Lucky Strike Mine, Family Butte, and other popular mining areas and dispersed camping sites. Tomsich Butte is also used for dispersed camping near Muddy Creek and is often used as an undeveloped trailhead for motorized activities such as hiking, backpacking, canyoneering, and occasionally river rafting. Old mining roads and abandoned mine features can be found throughout this route network geographic area and are now used as additional OHV loops and destination sites for people to view and learn about the historic mining in the San Rafael Swell. Beyond the scenic quality that these trails offer, they also provide more challenging OHV loop opportunities for those who seek rocky/difficult trail experiences. This area is also frequented by desert bighorn sheep and other wildlife that people enjoy watching and hunting.

General resources within this geographic area are soils, vegetation, air, water, wildlife, cultural, paleontological, visuals, recreational, grazing, and other natural resources. This area contains the Reds Canyon Wilderness, and a portion of the Muddy Creek Wilderness Area. This geographic area contains the Hondu Country BLM Natural Area, and the Block Mountain lands with wilderness characteristics inventoried unit. This area contains a portion of the Muddy Creek and I-70 Scenic ACECs, and the Tomsich, Lucky Strike, and Swasey Cabin Historic ACEC's. This area also contains habitat for threatened and endangered species such as the Mexican Spotted Owl, Barnaby Reed Mustard, Jones Cycladenia, Last Chance Townsendia, San Rafael Cactus, and Ute Ladies'-Tresses.

Evaluated routes within the Swaseys Cabin/Reds Canyon route network geographic area: SS2714, SS4001, SS4002, SS4003, SS4004, SS4005, SS4006, SS4008, SS4010, SS4011, SS4013, SS4014, SS4015, SS4016, SS4017, SS4018, SS4019, SS4020, SS4021, SS4026, SS4027, SS4033, SS4034, SS4035, SS4036, SS4037, SS4038, SS4039, SS4040, SS4042, SS4043, SS4045, SS4046, SS4047, SS4048, SS4049, SS4050, SS4051, SS4052, SS4053, SS4054, SS4056, SS4059, SS4060, SS4061, SS4062, SS4063, SS4064, SS4065, SS4066, SS4067, SS4068, SS4069, SS4070, SS4071, SS4072, SS4074, SS4075, SS4077, SS4080, SS4082, SS4083, SS4085, SS4086, SS4087, SS4088, SS4089, SS4090, SS4091, SS4093, SS4095, SS4096, SS4097, SS4099, SS4100, SS4101, SS4102, SS4103, SS4105, SS4106, SS4107, SS4108, SS4111, SS4112, SS4114, SS4115, SS4116, SS4117, SS4118, SS4119, SS4120, SS4121, SS4122, SS4124, SS4125, SS4126, SS4127, SS4130, SS4133, SS4134, SS4135, SS4136, SS4137, SS4138, SS4139, SS4141, SS4141, SS4142, SS4145, SS4147, SS4148, SS4149, SS4150, SS4151, SS4154, SS4155, SS4156, SS4159, SS4160, SS4161, SS4162, SS4163, SS4164, SS4165, SS4166, SS4167, SS4168, SS4169, SS4170, SS4171, SS4172, SS4173, SS4175, SS4176, SS4177, SS4178, SS4179, SS4180, SS4181, SS4182, SS4183, SS4184, SS4185, SS4186, SS4187, SS4188, SS4191, SS4192, SS4193, SS4194, SS4195, SS4196, SS4197, SS4198, SS4199, SS4200, SS4202, SS4203, SS4204, SS4205, SS4206, SS4206A, SS4207, SS4208, SS4209, SS4210, SS4211, SS4212, SS4213, SS4214, SS4215, SS4219, SS4220, SS4221, SS4222, SS4223, SS4224, SS4225, SS4441, SS4443, SS4444, SS4445, SS4446, SS4448, SS4449, SS4450, SS4451, SS4452, SS4453, SS4454, SS4455, SS4456, SS4457, SS4458, SS4459, SS4460, SS4461, SS4463, SS4464, SS4465, SS4466, SS4467, SS4468, SS4470, SS4471, SS4472, SS4473, SS4474, SS4475, SS4476,

SS4478, SS4479, SS4480, SS4482, SS4483, SS4484, SS4485, SS4486, SS4487, SS4488, SS4489, SS4490, SS4491, SS4492, SS4493, SS4495, SS4496, SS4497, SS4498, SS4499, SS4502, SS4503, SS4504, SS4505, SS4506, SS4507, SS4508, SS4509, SS4510, SS4513, and SS4513A.

The Swaseys Cabin/Reds Canyon area is approximately 70,168 acres.

**Swaseys Cabin/Reds Canyon**

Total Miles: 158

Alt A	Miles	Alt B	Miles	Alt C	Miles	Alt D	Miles	Alt E	Miles
Open to all use	112	Open to all use	98	Open to all use	118	Open to all use	151	Open to all use	106
Closed	46	Closed	60	Closed	39	Limited to vehicles less than 66"	4	Closed	51
						Closed	2		

Alternative A would keep 46 miles (29%) of the evaluated routes in this area.

Alternative B would close 60 miles (38%) of the evaluated routes.

Alternative C would close 39 miles (25%) of the evaluated routes.

Alternative D would close 2 miles (1%) of the evaluated routes and limit 4 miles (3%).

Alternative E would close 51 miles (32%) of the evaluated routes.

In addition to the evaluated routes, there were 22 miles of originally inventoried routes in this route network geographic area that were removed from consideration in the EA because they were closed in all alternatives for not having an identified motorized public purpose and need, or for having significant resource concerns. None of these routes were designated for OHV use in the past.

## **C.22 TEMPLE MOUNTAIN**

Temple Mountain is a smaller route network geographic area but is made up of unique and scenic geological features and has a high concentration of routes. Popular recreation activities within this area are OHV riding, dispersed camping, cultural/historic viewing, geologic viewing, scenic viewing, hiking, canyoneering, hunting, mountain biking, geocaching, and photography. This geographic area contains a part of the congressionally designated San Rafael Swell Recreation Area. This route network geographic area provides access to the Temple Mountain Townsite Campground, and several destination OHV and motorcycle trails. Temple Mountain itself is the site of an historic mining district that has many old mining roads that lead to mining shafts, abandoned equipment, and historic buildings/cabins that attract visitors wanting to learn about the history of the area. In the northern part of this area is a popular single-track motorcycle trail system known as the Colored Trails/Dick Brass Trails/Temple Mountain Trails. This trail system provides a variety of difficulty levels and includes the extremely challenging 5 Miles of Hell Trail, which attracts users wanting to test their motorcycle skills. Because of the difficulty, the Lone Man Trail in the northern portion of this route network geographic area is often used to recover wrecked bikes or injured users. This area boasts popular OHV opportunities and is frequently used by commercial guiding companies and for organized events. Dispersed camping along the southern and western boundary of this area is very popular because of its scenic quality and vicinity to various recreational opportunities.

General resources within this geographic area are soils, vegetation, air, water, wildlife, cultural, paleontological, visuals, recreational, grazing, and other natural resources. This area contains a portion of the San Rafael Reef Wilderness Area and portions of the San Rafael Reef lands with wilderness characteristics inventoried units. This area contains a portion of the San Rafael Reef North ACEC and the

Temple Mountain Historic ACEC. This area also contains habitat for threatened and endangered species such as the Mexican Spotted Owl, Barnaby Reed Mustard, Jones Cycladenia, Last Chance Townsendia, San Rafael Cactus, and Ute Ladies'-Tresses.

Evaluated routes within the Temple Mountain route network geographic area: SS2534, SS2565, SS2566, SS2567, SS2568, SS2569, SS2570, SS2572, SS2573, SS2574, SS2576, SS2577, SS2578, SS2579, SS2581, SS2582, SS2583, SS2584, SS2585, SS2586, SS2587, SS2588, SS2589, SS2590, SS2591, SS2592, SS2593, SS2594, SS2595, SS2596, SS2597, SS2598, SS2599, SS2601, SS2602, SS2603, SS2605, SS2606, SS2607, SS2608, SS2609, SS2610, SS2611, SS2612, SS2613, SS2614, SS2615, SS2616, SS2617, SS2618, SS2619, SS2620, SS2621, SS2622, SS2623, SS2624, SS2625, SS2626, SS2627, SS2628, SS2631, SS2633, SS2634, SS2635, SS2637, SS2638, SS2639, SS2640, SS2641, SS2642, SS2643, SS2644, SS2648, SS2652, SS2653, SS2656, SS2657, SS2658, SS2659, SS2660, SS2661, SS2662, SS2663, SS2664, SS2666, SS2667, SS2668, SS2669, SS2670, SS2671, SS2672, SS2675, SS2677, SS2678, SS2679, SS2680, SS2681, SS2682, SS2683, SS2684, SS2686, SS2687, SS2689, SS2690, SS2691, SS2694, SS2695, SS2697, SS2698, SS2699, SS2700, SS2701, SS2712, SS2713, SS2721, SS2722, SS2723, SS2724, SS2725, SS2726, SS2727, SS2728, SS2730, SS2736, SS2738, SS2743, SS2744, SS2745, SS2746, SS2750, SS2752, SS2753, SS2754, SS2755, SS2755A, SS2756, SS2757, SS2758, SS2760, SS2761, SS2762, SS2764, SS2765, SS2766, SS2776, and SS2824.

The Temple Mountain area is approximately 47,282 acres.

### **Temple Mountain**

Total Miles: 100

<b>Alt A</b>	<b>Miles</b>	<b>Alt B</b>	<b>Miles</b>	<b>Alt C</b>	<b>Miles</b>	<b>Alt D</b>	<b>Miles</b>	<b>Alt E</b>	<b>Miles</b>
Open to all use	27	Open to all use	18	Open to all use	31	Open to all use	61	Open to all use	30
Limited to single-track vehicles	35	Limited to vehicles less than 66"	4	Limited to vehicles less than 66"	17	Limited to vehicles less than 66"	16	Limited to vehicles less than 66"	16
Closed	38	Limited to single-track vehicles	22	Limited to single-track vehicles	33	Limited to single-track vehicles	22	Limited to single-track vehicles	32
		Closed	55	Closed	19	Closed	1	Closed	22

Alternative A would keep 38 miles (38%) of the evaluated routes in this area closed and keep 35 miles (35%) limited.

Alternative B would close 55 miles (55%) of the evaluated routes and limit 26 miles (26%).

Alternative C would close 19 miles (19%) of the evaluated routes and limit 50 miles (50%).

Alternative D would close 1 mile (1%) of the evaluated routes and limit 38 miles (38%).

Alternative E would close 22 miles (22%) of the evaluated routes and limit 48 miles (48%).

In addition to the evaluated routes, there were 13 miles of originally inventoried routes in this route network geographic area that were removed from consideration in the EA because they were closed in all alternatives for not having an identified motorized public purpose and need, or for having significant resource concerns. None of these routes were designated for OHV use in the past.

## **APPENDIX D RECREATION RESOURCE CONSIDERATIONS**

### **D.1 MANAGEMENT FRAMEWORK**

The 2008 RMPs direct the BLM to manage for dispersed recreation throughout the field office in a way that protects resources, facilitates education, and minimizes conflicts with other uses. For more information on recreation in the TMA, see pages 3-72 to 3-76 of the 2008 Price Proposed RMP/EIS (BLM 2008d) and pages 3-94 to 3-97 of the 2008 Richfield Proposed RMP/EIS (BLM 2008f).

In addition, the Price 2008 RMP created the San Rafael Swell Special Recreation Management Area (SRMA), the Buckhorn/Wedge- Temple Mountain- and Sinbad/Swaseys Cabin/Sids Mountain-Recreation Management Zones (RMZs), and the Price Field Office Extensive Recreation Management Area (ERMA) to facilitate recreation management and specify recreation goals and strategies in the TMA.

For route network geographic areas within the San Rafael Swell SRMA, the potential impacts of each alternative are framed by the SRMA's, or respective RMZ's, outcomes. In the outcome-focused management framework, the BLM identifies desired social, economic, personal, and environmental outcomes in the RMP and plan activities to attain those outcomes. Thus, alternatives which facilitate the desired outcomes benefit the recreation experience; those which move further from those outcomes have the potential to degrade it. Common threads between the outcomes for both the SRMA and the ERMA which recur throughout the analysis are protecting natural, cultural, and historic resources; providing opportunities for personal challenge, growth, and risk-taking; and maintaining the recreation setting's character.

#### **San Rafael Swell Special Recreation Management Area**

This SRMA has both heavily used areas such as Little Wild Horse Canyon, the Wedge Overlook, Buckhorn Panel, and the Temple Mountain area as well as more rugged and dispersed areas for visitors to explore. Primary recreation activities that fall under BLM targeted outcomes for this SRMA include vehicle exploration, scenic viewing, camping, rock imagery viewing, cultural/historical exploration, backcountry hiking and backpacking, canyoneering, horseback riding, wilderness therapy and education, and river-running on the San Rafael River and Muddy Creek (BLM 2008d Appendix R-9 Table R9-5). BLM's desired experiences and benefits for this SRMA range from family togetherness and nostalgia to risk taking and achievement to positive contributions to the local economy (BLM 2008d Appendix R-9 Table R9-5).

The five most popular recreation opportunities are very well known due to both interpersonal ties and publicity in guidebooks, magazines, tourism websites, and social media. These areas are also classified as semi-primitive motorized settings or, in the case of Buckhorn Draw and the Wedge, roaded natural and rural (which allow for an even higher level of physical alteration, recreational use, and onsite management).

#### **Cleveland-Lloyd Dinosaur Quarry Special Recreation Management Area**

Primary recreation activities under BLM targeted outcomes for this SRMA include paleontological site visitation, heritage tourism, hiking, interpretive exhibit viewing, recreational learning, picnicking, and hiking with interpretation. These recreation activities largely occur at the quarry itself (now part of Jurassic National Monument).

#### **Extensive Recreation Management Areas**

ERMAs are managed to support and sustain recreation commensurate with other resources (BLM 2014b). Consequently, in ERMAs, the RMPs give recreation only custodial management of visitor health and safety, user conflict, and resource protection (BLM 2008e, BLM 2008g). The Richfield RMP further states that ERMA management objectives are to: provide a variety of recreational opportunities, including

primitive, semi-primitive non-motorized, semi-primitive motorized, roaded natural, and rural; and provide outdoor settings ranging from areas with a high-to-moderate opportunity for solitude and closeness to nature (where visitors should be prepared for a high level of self-reliance, challenge, and risk) to areas where visitors have the convenience of facilities and a higher interaction with other users (BLM 2008g). Within the Price ERMA, users are primarily OHV recreationists, as most non-motorized use is concentrated in the SRMA (wilderness areas and BLM-developed trails and recreation sites).

## **D.2 METHODS, ASSUMPTIONS, AND LIMITATIONS OF ANALYSIS**

In recreation, the magnitude (severity) of an impact can be influenced by whether or not it relates directly to a planning outcome as well as the number of people impacted. These elements are presented in the Affected Environment and used to contextualize the potential impacts of each alternative. Within each section of both the motorized and non-motorized issues, changes which could substantively impact recreation opportunities, access, and experiences are summarized within each affected route network geographic area in table form. Indirect effects; patterns between route network geographic areas; changes which substantively deviate from RMP desired outcomes or would impact a large number of users; and changes which have meaningful implications for health and human safety are summarized in the subsequent narrative along with anticipated secondary impacts from changes not listed in the tables.

The following data are used throughout the analysis:

- Visitation trends (see D.3): activity level, annual distribution, and changes over time
- Synthesizing reviews and other research commissioned by state or local governments
- Focus groups carried out in 2023 by Colorado Mesa University about the San Rafael Swell Recreation area; meetings were based in Green River, Castle Dale, and Price
- BLM GIS databases
- BLM monitoring and reporting: campsite inventory data (emphasized in zones popular for dispersed camping), SRP post-use reports and operating plans, and field reports (observations, visitor conflicts, work completed)
- Comments and observations from members of the public, both individuals and organizations
- Peer-reviewed literature: Studies which occurred on the Colorado Plateau within the past five to ten years were prioritized to be most analogous to the geographic and social setting of the TMA. In some cases, landmark studies were also appropriate, as were graduate dissertations when vetted for relevance and design quality. Survey research least likely to convey sampling bias was prioritized (e.g., large sample size and/or extensive outreach) where available, as were studies within the state of Utah.

## **D.3 VISITOR USE ESTIMATES**

BLM visitor use, where possible, is estimated quantitatively from electromagnetic vehicle counters. Alternate sources for estimating visitor use levels in dispersed areas where vehicles are not present include staff field patrols, data from adjacent land management agencies, and data using social crowd-sourced methods (BLM 2024c, p.177). These resources were used in the listed order with a prioritization of data from the PFO and adjacent field offices to observe temporal trends, both within calendar years and over consecutive years. Available data age varied from one to ten years within the PFO and within neighboring agencies: the Moab Field Office (MFO), Richfield Field Office (RFO), Manti-La Sal National Forest, Capitol Reef National Park (CARE), Canyonlands National Park (CANY), and Arches National Park (ARCH). Table 3-12 provides data for the PFO and Table Appx - 30 provides data outside of the PFO.

**Counters:** Recreation visits for each travel network geographic area have been estimated from BLM vehicle counters (in most cases, an average of 2.5 persons per vehicle was predicted) and are also

presented in Table 3-12. These counters are placed at access points and on specific trails, usually those leading to popular recreation sites. There are several “core” counters at major access points: the four county roads leading into the northern part of the TMA, the main Interstate 70 exit for the San Rafael Swell (Exit 131), the road leading into Temple Mountain, and the road leading to Dutch Flats. Various others throughout the TMA allow for precise counts in different network areas; where absent, the nearest core counter was used. Each counter was only used once to avoid duplication; however, it should be noted that individuals counted for one network area may have traveled into a second (e.g., a vehicle driving through Dutch Flats to access the Coal Wash OHV trails would be included in the Dutch Flats count but is also recreating in the Sids Mountain/Wickiup network area). Type of use is assumed based on BLM observations, which include field observations, emergency responses, and SRP usage. Where multiple uses are possible, a known predominant use was determined based on BLM field observations, emergency responses, social crowd-sourced methods, and SRP administration. For example, the technical degree of difficulty of the trails in the Devil’s Racetrack-Cane Wash area considerably limits their accessibility to vehicles larger than ATVs/UTVs. Some single-track trails around Chimney Rock appear in online mountain biking guides, but ground impacts and SRPs point to motorcycling being far more common.

**Staff field patrols:** Routes where rangers routinely observe camping impacts, roadside trash, and visitors are inferred to be high-use; those which are overgrown or routinely absent of vehicle tracks even during high use season are inferred to be low-use. BLM staff have a routine field presence both in developed areas for facility maintenance and in dispersed-use areas for sign installations, resource monitoring, and other projects. Park rangers also work with cooperating organizations to maintain trails based on visitor reports, providing another indicator of use. These are qualitative observations that have enabled the BLM to target counter placement in areas which either are known to receive high use (due to obvious impacts), are access points to key use areas/networks, or are of specific visitor use concerns. Some remote areas where there are no impact concerns or specialized management objectives are not monitored with counters.

**Neighboring Agencies:** Visitation counts from nearby National Park Service units (Canyonlands Maze/Horseshoe Canyon districts, Capitol Reef) and from the Manti-La Sal National Forest were also reviewed where appropriate with geographic location, recreation opportunities, or both. For example, the Mussentuchit/Last Chance network area and west portion of the Copper Globe/Lone Tree network area have few human impacts and limited recreation destinations. The counter on the county road leading to two better-known destinations (Segers Hole and the Mussentuchit sand dune) logged approximately 5,500 visitors from spring 2023 to spring 2024. This aligns with the relatively low visitation documented further south in Capitol Reef National Park’s Cathedral Valley area, which had 15,854 visitors in 2023 (1.2% of the park’s overall visitation) and is far more publicized than Segers Hole. NPS visitor use data comes from the agency’s Visitor Use Statistics portal (<https://irma.nps.gov/Stats/>). The data pulled from the Forest Service’s National Visitor Use Monitoring Program (<https://apps.fs.usda.gov/nvum/results/A04010.aspx/FY2021>) was less transferable as the estimates are on the entire forest level (rather than districts) and the only subdivisions are day-use, dispersed, overnight, and wilderness as opposed to activity- or site-based as BLM and NPS have. Several publications provided state-level information on preferred activities, but due to the wide geographic range as well as the inherent differences in recreation opportunities in the TMA versus mountainous forests no valuable insight could be gleaned.

**Table Appx - 30: Visitor Use – National Parks**

Park	2024	2023	2022	2021	2020	2019	2018
<b>Capitol Reef</b>							
Total	—	1,268,861	1,227,608	1,405,353	981,038	1,226,519	1,227,627
South District <sup>1</sup>	—	107,002	105,277	135,699	94,993	122,016	106,106
North District	—	15,854	18,217	18,808	16,136	20,462	14,482

Park	2024	2023	2022	2021	2020	2019	2018
<b>Canyonlands</b>							
Maze District	4,897	6,236	9,524	12,449	5,912	8,878	8,956
Island in the Sky District	585,112	625,072	632,779	661,866	310,359	519,275	518,238
Needles District	164,220	144,450	154,473	189,385	93,547	156,789	161,778
4WD trails <sup>2</sup>	81,508	65,866	59,898	56,413	26,302	46,759	47,523
Needles backcountry camping <sup>3</sup>	12,500	12,962	13,725	17,529	10,146	15,983	16,127
<b>Arches</b>							
Total	1,200,727	1,209,905	1,187,467	1,484,606	892,261	1,397,137	1,399,527
Backcountry overnight <sup>4</sup>	128	116	254	244	34	333	306

<sup>1</sup> South District consists of the Waterpocket Fold area; North District consists of the Temple of the Sun/Moon and Cathedral Valley areas.  
<sup>2</sup> Includes Elephant Hill (Needles), White Rim and Shaffer trails (Island in the Sky), and Maze Overlook and Standing Rocks (Maze)  
<sup>3</sup> Per communication with rangers, approximately 66-75% backpacking  
<sup>4</sup> Backpacking only at four designated sites.

The BLM considered trends in visitation both overall and within specific user groups which could either reflect or influence visitor use in the San Rafael Swell. In particular, visitation patterns at the Maze and in the North and South Districts of Capitol Reef are most likely to track with trends in the Swell due to similarities in recreation experience. These areas offer an extremely remote and scenic backcountry experience far from pavement, visitor centers, and amenities. Reviewing data back to 2018, use at Capitol Reef, like the San Rafael Swell, saw irregular number in 2020-2021 but has returned to pre-pandemic figures. Off-roading in Canyonlands has notably increased, a trend which has not been observed in the San Rafael Swell in popular areas such as the Devils Racetrack-Coal Wash area, Eagle Canyon/Justensen Flat, and the Twin Knolls single-track system. Regardless, the limitations of off-roading opportunities in national parks is considered in planning for OHV recreation in relation to 43 CFR 8342.2(c) (see section 3.3.4.1 Motorized Recreation) as these three parks only allow street-legal vehicles on technical trails.

Other key takeaways that were considered in the analysis based on this data:

- Capitol Reef's entire north district—which includes Cathedral Valley and the Temple of the Sun and Moon—has only 15,000 annual visitors, around 1% of the park's visitation; this places an inherent cap on the number of visitors to the Limestone Cliffs, Fremont Junction, and Mussentuchit/Last Chance network areas who originate in the south. Furthermore, these network areas lack the prominent destinations of Capitol Reef—the features of Cathedral Valley are frequently highlighted in guides and even media and merchandise. While there are many scenic overlooks in the BLM network areas, none are publicly highlighted to the same degree.
- Visitor use at the parks has been the inverse of the BLM: for both agencies, visitation in the past two years has, with a few exceptions, returned to pre-pandemic levels. However, whereas visitation dropped at national parks in 2020 due to closures it increased on BLM land, likely due to the parks being closed as well as heightened public interest in outdoor recreation.
- There appear to be some site-/activity-specific trends, such as increasing use on the Canyonlands 4WD trails but an overall decrease in backcountry camping and visitation to the Maze (a remote backcountry district requiring 4wd on all trails) as well as backpacking in Arches. In 2024 the BLM has increased monitoring and visitor counting at recreation sites which can provide similar insight into the Swell—e.g., use of popular backpacking areas and visitation to lower-use trails and areas.
- Overall visitor estimates place visitation to the TMA midway between the Needles and Island in the Sky. The Needles is especially popular for hiking and backpacking but fairly remote while Island in the Sky is close to Moab and popular for scenic driving and off-roading. The user bases, however, are likely different as the TMA is close to many rural towns which do not receive the

same tourism visitation but whose residents may spend more time recreating in the TMA due to its proximity.

**Data using social crowd-sourced methods:**

- SRPs: whereas some members of the public may elect to travel to less-visited locales (e.g. to seek solitude), event organizers and guides cite objectives such as technical challenges and sightseeing which lend them to visit the same trails that the public frequents (e.g., the Twin Knolls singletrack network, the Devil’s Racetrack-Cane Wash area, and Chimney Rock).
- Inclusion of online guides: While not always an indicator of visitation levels, the online and print publicity of trails gives some insight as to who users may be. For example, destinations and trails for which information is readily available are more accessible to those not familiar with the area than those which are not. Visitation to these areas may have different socioeconomic impacts than areas more popular among residents of Carbon and Emery Counties who do not seek services such as guides, rentals, and lodging.

## **D.4 RECREATION OPPORTUNITIES SPECTRUM**

The BLM utilizes the Recreation Opportunities Spectrum (ROS) model to identify zones with different physical, administrative, and social recreation setting characteristics (RSCs). Almost all of the TMA is classified in the primitive, semi-primitive motorized, or semi-primitive non-motorized ROS classes. In these areas, the RSCs are:

- Few to moderate encounters with other parties, and a very low user density in primitive areas (all wilderness)
- Onsite management that is present but subtle, and very low in primitive areas
- Isolated or rare structures
- Natural setting with moderate (semi-primitive motorized), subtle (semi-primitive non-motorized), or essentially no (primitive) human modifications

Additionally, strong evidence of OHV trails, routes, and roads is acceptable in semi-primitive motorized areas. There should be little to no evidence of OHV routes in semi-primitive non-motorized and primitive areas.

These setting characteristics, along with intangible experiences and benefits, are used to analyze whether each alternative moves the BLM towards or away from site-specific recreation management objectives. In this analysis, “crowding,” “user density,” and other similar terms refer to perceived crowding due to the number of encounters, or the probable number of encounters, *not* the overall volume of visitation because perceptions of crowding have been shown to be more correlated with the former than the latter (Allen 2019). Tolerance for user encounters varies user-to-user, but patterns within user groups based on survey research are used to establish desired conditions. The BLM attains RMP objectives when:

1. The aforementioned RSCs are maintained.
2. The social conditions preferred on the user-group level for those user groups identified in the RMP are maintained; across the board, these largely mirror the RSCs.
3. User groups are able to attain their desired outcomes in harmony with one another, i.e., not one at the expense of another, and without user conflict or safety concerns.

Examples of how the TMP could move the BLM away from RMP objectives include:

1. Route designations which increase the number of visitor encounters or necessitate onsite management where little to no management is preferred.
2. Route designations which increase the evidence of motorized trails, route, or trailheads beyond the desired amount for that ROS class.

3. Route designations which detract from the experience of RMP-identified user groups or increase potential for user conflict.
4. Route designations which do not balance motorized access with undeveloped backcountry appropriate to RMP designations (SRMA, SRMA RMZ, ERMA).

While the RMPs identify primary activities for the ERMA, SRMA, and individual RMZs, specific user groups are not prioritized in any instance. Cultural and heritage tourism are highlighted throughout the San Rafael Swell SRMA and RMZs in the form of distinctive and significant rock imagery sites, remnants of outlaw-era settlements and bootlegging, and Cold War-era mines. Presently, all user groups can appreciate these resources to varying degrees, and no sites are closed beyond several uranium mines which have been sealed for health and human safety. While methods of authorized access may change under the alternatives, no site closures exist or are proposed.

## **D.5 CHANGES AND EXCEPTIONS**

Travel management is an ongoing action and, per both the PFO and RFO RMPs, can be adapted to changing conditions. REC-7 and OHV-8 allow the BLM to carry out activity-level plans in establishing new motorized recreational trail systems or small OHV-Open areas (BLM 2008d p. 104, 114). OHV-2 and OHV-3 give the PFO authorizing officer discretion to close or impose limitations on designated routes if OHVs are causing or will cause adverse impacts or resource damage and OHV-9 directs the BLM to review routes which are OHV-Limited periodically and make changes based on resource conditions and changes of use. In the Richfield RMP in REC-1, REC-4, REC-9, REC-10, TRC-3, and TRC-6 provide the same authorities, minus the allowance of activity-level plans in the RFO ERMA.

While all active SRPs are restricted to designated routes, activities off of designated routes may be considered. If such an application is accepted, it would be analyzed a project-level Environmental Assessment. Under such conditions the BLM may authorize isolated use of close routes, construction of new, temporary routes, or off-route open use in a confined area. During the NEPA analysis, the BLM ensures that the activities will not create permanent resource damage and bonds the applicant as appropriate to reclaim ground disturbance.

## **D.6 ANALYSIS AREA**

National forests and BLM land are the only public ownerships which generally have free access (versus national and state parks). USFS land is not considered in the analysis area, however, because seasonal access and weather conditions are a larger determining factor in visitation than the recreation opportunities of a given area (Smith and Miller 2020).

## **D.7 DISPERSED CAMPING**

There are no RMP limitations on non-vehicle supported dispersed camping (e.g., backpacking) in the TMA, therefore non-vehicle supported dispersed camping may occur along any designated route and route closures do not result in dispersed camping closures. Camping facilitates many of the targeted outcomes of the RMP including family togetherness, escape from social pressure, and physical rest (BLM 2008d Appendix R-9). Balancing camping with resource protection is an ongoing management priority. For example, resource damage (from campsite proliferation and trash) and public health and safety issues (from human waste) in high-use camping areas are the main drivers when deciding whether to develop a dispersed camping area into a fee campground.

Per the Richfield RMP, vehicle-assisted camping can only occur in existing campsites (as distinguished by fire rings, old tent sites, and vehicle tracks) within 150 feet of designated routes along travel and existing spur routes. and vehicle access can only occur on existing spur routes. Per the Price RMP, vehicle-assisted camping in the RMZs can only occur in developed and designated sites and outside the RMZs vehicle-assisted camping is only allowed when vehicles are parked directly adjacent to a

designated route. Vehicle campers gravitate to certain areas often due to their proximity to (1) highways (with these sites doubling as OHV staging areas) or (2) fee campgrounds. In 2024, the BLM conducted a dispersed campsite inventory in popular camping areas within the TMA. Table Appx - 31 lists the major camping impacts observed in this inventory; further data is available from the BLM upon request. Areas on state lands were excluded, though the BLM has noted extensive impacts on TLA-owned land in addition to BLM land in the areas marked with an asterisk.

**Table Appx - 31: Dispersed Campsite Inventory Results (2024)**

Camping Area	Network Area	Description
Lower Black Dragon Wash/Tidwell Bottom	Black Dragon/Mexican Mountain	Clusters of campsites from I-70 junction to the mouth of Black Dragon. Combination of OHV staging, camping near non-motorized trailhead, and isolated campsites on routes leading towards the San Rafael River (though not in the riparian zone, which is private property).
Mexican Mountain Rd.	Black Dragon/Mexican Mountain	Many campsites on roads off-shooting from the Mexican Mountain Road (county road 320). While most sites are upland surrounded by junipers and desert scrub, four routes leading down to the San Rafael River have considerable vegetation impacts in the riparian area.
Rods Valley/Family Butte*	Swasey's Cabin/Reds Canyon	Numerous campsites of varying sizes spurring from county road. Spur roads are often contained by either dense pinyon-juniper forests or topography, so expansion is not as severe as others such as the Wedge and Wickiup.
Temple Mountain* (SS2580, SS4267, SS4268, SS4294)	Behind the Reef	Many campsites west of the Temple Mountain Townsite campground; mostly single sites scattered along routes with little potential for expansion due to terrain.
Tomsich Butte	Swaseys Cabin, Reds Canyon	Convenient access to historic sites, mines, and wilderness. Sites vary in impact, with some in clearings around cottonwoods and others in open grasslands/floodplains. Sites are isolated (as opposed to the networks of the Wickiup and Rods Valley), low to moderate use, and relatively small. Predominant user group is likely non-motorized and camping in tents or vehicles based on the location and lack of space for a trailer in many sites.
The Wedge*	Buckhorn/Wedge	Flat, open terrain with shading pinyons and junipers with visitation occasionally exceeding available camping sites has resulted in continued proliferation and expansion of vehicle campsites at the most-visited destination in the TMA.
The Wickiup	Sids Mountain/Wickiup	Very large area north of Exit 131 has prolific impacts due to flat, open terrain (similar to the Wedge and other pinyon-juniper forests). Based on proximity to OHV trails and BLM observations, serves double duty as staging/camping. More impacts along SS3010.
Wild Horse Canyon	Behind-the-Reef	Flat areas with sparse vegetation are heavily used for camping and staging; very close to Temple Mountain and easily accessible. Topography generally confines camping, although motorized cross-country travel leading west out of the largest campsite has been documented.

## D.8 NON-MOTORIZED RECREATION

Based on backcountry monitoring, the BLM knows that with few exceptions, non-motorized recreation in the TMA is unmaintained and minimally developed yet concentrated in specific locations. This means there is a robust user knowledge network beyond the information provided by the BLM such as guidebooks, guide websites, online forums, and other user to user communication. The Good Water Rim

trail is the only constructed and maintained trail within the TMA; while it is purpose-built for mountain biking, it attracts hikers as well. Table 3-14 highlights destinations which have been established by guidebooks, online guides, or county or BLM publications. Since non-motorized recreation is not route-based, opportunities are numerous and extensive for visitors, ranging from hiking in well-known slot canyons to sumitting numerous peaks (named and unnamed), backpacking through trailless canyon systems, and route-finding backcountry packrafting loops. Impacts to these more dispersed opportunities are addressed in the general bullets for each alternative's analysis.

### **Visitation**

The Little Wild Horse slot canyon and neighboring Bell Canyon are the singular most-visited hiking locations in the Swell, having historically drawn upwards of 20,000 visitors annually. Other well-established routes include the San Rafael River trail, Ding and Dang canyons, and Chute Canyon (particularly among equestrian users), all of which are in wilderness. Outside of wilderness there are many opportunities, albeit not within the same high concentration as the canyons of the wilderness areas. Scattered buttes across the Sinbad area provide summits for climbers and hikers, and cultural sites such as the Rochester Panel draw hikers.

## APPENDIX E CONFORMANCE TO SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT THROUGH THE TRAVEL AND TRANSPORTATION PROGRAMMATIC AGREEMENT

### Introduction:

The 2018 *Programmatic Agreement among the Advisory Council on Historic Preservation, the Bureau of Land Management – Utah, and the Utah State Historic Preservation Office Regarding National Historic Preservation Act Responsibilities for Travel and Transportation Management Undertakings* (Travel PA) was developed and signed to “establish greater clarity in how BLM-Utah’s travel and transportation management undertakings should make “a reasonable and good faith” effort to identify historic and traditional cultural properties in accordance with 36 CFR § 800.4(b)(1).” The Travel PA also establishes BLM-Utah’s procedures towards comprehensively meeting its obligations under 36 CFR § 800 to identify, evaluate, and resolve potential adverse effects to historic properties (including traditional cultural properties) for travel and transportation management undertakings. To show BLM’s adherence to the stipulations of the Travel PA, Table Appx - 32 lists the requirements of the Travel PA BLM has and is adhering to.

**Table Appx - 32: Stipulations of the Travel PA Adhered to by BLM**

Travel PA and the 2017 Settlement Agreement	Did BLM Fulfill Requirement
<p><b><i>Identifying Areas of Potential Effects (APEs) for OHV Route Designations - Travel PA Stipulation III.A.1.b.</i></b></p> <p>Under this stipulation the BLM must invite and seek consulting party (including the SHPO) input when defining the width of the APE and seek any additional cultural resources information a consulting party wishes to share.</p>	Yes
<p><b><i>Travel PA Stipulation III.A.2. Literature Reviews and Cultural Resource Potential Maps for Open OHV Area and OHV Route Designations</i></b></p> <p>Under this stipulation the BLM must complete and/or update a literature review and cultural resource potential map. BLM must also invite and seek consulting party comments regarding these identification efforts.</p>	Yes
<p><b><i>Travel PA Stipulation III.A.4.b Class III Surveys for OHV Route Designations</i></b></p> <p>Prior to approving OHV route designations, BLM will complete Class III surveys within all routes or portions of routes that are located within a cultural resource potential map’s identification of a high potential cultural resource area.</p> <p><b>2017 Settlement Agreement Stipulations 24 (b)(ii) and (c), – Class III survey in certain ACECs and Class III surveys in high potential areas</b></p> <p>Prior to approving a TMP within certain ACECs the BLM must conduct Class III survey along all routes or portions of routes that are designated as open.</p> <p>The 2017 Settlement Agreement also requires Class III survey along all routes or portions of routes that are located in areas of high cultural resource potential that the BLM has identified in a Class I cultural resource inventory.</p> <p><b><i>Travel PA Stipulation IV.D. Stipulation Adverse Effects (36 CFR 800.5)</i></b></p> <p>Under this stipulation, the BLM must invite and seek consulting party input regarding BLM-Utah’s finding of adverse effect.</p>	Yes

Travel PA and the 2017 Settlement Agreement	Did BLM Fulfill Requirement
<p><b><i>Travel PA Stipulation III.A. 3. Site Revisits for Open OHV Areas and OHV Route Designations</i></b></p> <p>Site revisits serve as a component of BLM’s efforts to identify historic properties for undertakings that would designate OHV routes.</p>	Yes
<p><b><i>Travel PA Stipulation III.B.1 Determining the Need for Phased Class II Surveys for Travel Management Plans</i></b></p> <p>This stipulation requires that the BLM invite and seek consulting party input regarding the need to conduct additional cultural resource surveys after the TMP has been approved.</p>	Yes
<p><b><i>Travel PA Stipulation V. Resolution of Adverse Effects Through Historic Property Treatment Plans</i></b></p> <p>BLM’s resolution of adverse effects from the approval of the TMP are to be accomplished through the development of Historic Properties Treatment Plans (HPTP). BLM must provide an opportunity for SHPO, Indian tribes and consulting parties an opportunity to provide input on the HPTP.</p>	Yes

## **APPENDIX F CULTURAL RESOURCE REGULATORY CONSIDERATIONS AND DEFINITIONS**

While NEPA requires BLM to make a reasoned analysis of the effects of an action containing quantitative or detailed qualitative information to explain the relation between a resource and an action, cultural resources (archaeological and historic) data for this analysis is gathered and evaluated in a separate-yet-related process prior to, or in conjunction with, the NEPA process. BLM analyses the cultural resources data for potential effects through a process required by Section 106 of the National Historic Preservation Act (Section 106; NHPA) before those results are used in the NEPA analysis. Typically, NEPA analysis of cultural resources is broader and more general than the Section 106 process, which is highly detailed and prescribed.

Cultural resources are identified under Section 106 through combinations of inventories and surveys conducted by professional archaeologists, which are methods of finding “a representation of the cultural resource content of a geographical locale” (BLM 2004b). The BLM system for cultural resources identification is comprised of three methodological classifications: Class I Existing Information Inventory, Class II Probabilistic Field Survey, and Class III Intensive Field Survey. Class I inventory and Class III survey were used to identify cultural resources for this TMP under the Section 106 process. If the current analysis identifies a need for additional Section 106 work along designated routes after approval of the TMP, per Stipulation III.B.1. of the Travel PA the work would be designed using a Class II approach. All three methods begin with in-depth literature reviews, which inform the BLM on the existing site data specific to an undertaking’s location.

BLM Manual 8100 defines cultural resources as “definite location[s] of human activity, occupation, or use identifiable through field inventory (survey), historical documentation, or oral evidence” (2004b). The term includes archaeological, historic, and architectural sites, structures, places, and objects with important scientific, educational, and public uses. Also umbrellaed by this term are definite locations (sites and places) of traditional cultural or religious importance to specified social and/or cultural groups. Simply put, cultural resources are concrete, material places and things that are located, identified, classified, ranked, managed, and protected by federal agencies (BLM 2004b).

During identification and documentation of cultural resources for the TMP, standard 2020 Utah BLM site and isolated find definitions were used; the minimum criteria for defining archaeological sites are they should contain remains of past human activity that are at least 50 years old and consist of one or more of the following:

- At least 10 artifacts of a single class (e.g., 10 sherds) within a 10-meter-diameter area, except when all pieces appear to originate from a single source (e.g., one ceramic pot, one glass bottle).
- At least 15 artifacts that include at least two classes of artifact types (e.g., sherds, nails, or glass) within a 10-meter-diameter area.
- One or more archaeological features in temporal association with any number of artifacts.
- Two or more temporally associated archaeological features without artifacts.

Cultural resources that fall below the thresholds for an archaeological site are considered isolated finds (IFs), certain types of which are exempted from recording based on professional judgement with agency approval. Conversely, archaeological discoveries which are less substantial than those defined by the criteria above may be recorded as sites if a professional archaeologist believes they are significant. Buildings and structures, as defined by the NRHP, are never considered IFs, regardless of their standing or collapsed disposition.

As part of their documentation during Class III surveys, all cultural resources are professionally evaluated as to their eligibility for inclusion in the National Register of Historic Places (NRHP), using the evaluation criteria defined at 36 CFR § 60.4:

*National Register criteria for evaluation.* The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and

- (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
- (b) that are associated with the lives of persons significant in our past; or
- (c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- (d) that have yielded, or may be likely to yield, information important in prehistory or history.

During Class III reporting to the BLM, the contractors recommended whether each site qualifies as eligible or not eligible for inclusion in the NRHP, and stated which are already listed on the NRHP or cannot be evaluated currently and why. The BLM accepted these recommendations and will determine final eligibilities after Section 106 consultation.

The NRHP significance categories include Listed, Eligible, Not Eligible, and Undetermined. For the purposes of this analysis, sites necessarily left undetermined for NRHP eligibility are treated as though they are eligible. IFs are rarely NRHP-eligible because archaeologists normally employ their professional discretion in the field to record them as sites if they include significant features or artifacts, regardless of count or type.

Expectations for cultural resources that may be encountered within the TMA were established prior to the Class III surveys through review of the regional Class I Existing Inventories of the PFO and RFO jurisdictions, which were compiled in 2017 following the Settlement Agreement requirements. Krussow et al. compiled the following summary of cultural contexts and expectations for the comprehensive TMA prior to the Class III, based on the Class I inventories:

There is potential to encounter prehistoric, historic, [and ethnohistoric] cultural resources within the TMA. Current archaeological evidence indicates that people first arrived in the eastern Great Basin and northern Colorado Plateau approximately 13,000 years ago, near the end of the last ice age during the terminal Pleistocene. Over the last 13,000 years, the lifestyles of the people inhabiting the region have varied widely. The Paleoarchaic Period (prior to approximately 7,000 B.C.) is characterized by big game subsistence patterns with small groups of relatively mobile foragers who used most sites only briefly or infrequently; archaeological sites from this period are significant due to scarcity. The Archaic Period (7,000 B.C. – A.D. 1) is characterized by hunter-gatherer lifestyle with well-established seasonal movement for resource procurement. There is a vanishing scarcity of sites from this period, though the later part of this period saw the establishment of larger villages, the beginning of horticulture, and the higher use of rock shelters, where the dry atmosphere preserved an array of perishable items. The Formative Period (B.C. 150 – A.D. 1450) is marked by an emphasis on corn and other domesticated plants; on settlement in sedentary or semisedentary areas optimal for horticulture; and on the introduction of pottery (Matson 1991). The Formative Period in the San Rafael Swell is represented by Fremont occupation. Fremont sites range from large, settled villages to ephemeral camps that suggest a high degree of mobility; caves and rockshelters also continued to be used during the Fremont period (e.g., Aikens 1970; Bryan 1977). The Protohistoric Period (A.D. 1450 – A.D. 1850) is marked by the abandonment of horticulture and sedentary settlement systems and a

return to mobile hunter-gatherer subsistence patterns, likely driven by regional climatic factors. In the San Rafael Swell, there is evidence from this period of occupation by Numic-speaking peoples. Based on Euro-American historic and ethnohistoric accounts, the San Rafael Swell was considered Ute territory by the A.D. 1800s. However, 16 different Native American tribes currently claim ancestral affiliation with the San Rafael Swell, including Ute, Paiute, Navajo, Shoshone, and Puebloan groups. The Historic Period can be divided into five further major periods: the Early Exploration and Settlement period (1775–1880), the Industry and Growth period (1881–1929), the Great Depression period (1929–1940), the World War II period (1940–1945), and the Postwar period (1945–present). Euro-American settlement patterns during the Historic Period are associated with agriculture, homesteading, limited ranching, farming, minerals development, and transportation. Building roads—which were at first wagon roads—became a priority in the general area of the San Rafael Swell and many of the early roads built in the area would eventually become state highways.

The Class I regional overviews and localized literature reviews within the TMA indicate the majority of previously recorded cultural sites within the TMA date within the Prehistoric Period and consist of task-specific artifact scatters, temporary camps, lithic source quarries, long-term habitation sites, and rock imagery. The previously recorded sites dating within the Historic Period are dominated by industrial mining sites, habitations, roads, and historic debris scatters also present. Historical records also indicate that the Fremont Trail and the Old Spanish Trail cross areas of the TMA. The central area of the TMA is known to contain many short-lived mineral prospecting areas, as well as [long-term] historic mining complexes such as the Temple Mountain Mining District; the Hidden Splendor Mine, [airstrip, and habitation complex]; the Lucky Strike Mine; and Copper Globe Mining complex (2021).

In accordance with the Travel PA Stipulation III.A.1.b., prior to Class III fieldwork the BLM conducted Section 106 consultation to establish the TMP's Area of Potential Effects (APE) for cultural resources, following the definition at 36 CFR § 800.16(d):

*Area of potential effects* means the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.

Within the overall TMA planning area, the cultural APEs were determined to be:

- Direct APE (potential physical, visual, auditory, or atmospheric effects): 100 feet from centerline on either side of routes, resulting in 200-foot-wide Class III inventory and analysis corridors.
- Indirect APE (potential effects farther in distance, further in time, or cumulative): 0.25-mile from route centerline on either side, resulting in 0.5-mile-wide analysis corridors.

These APEs will serve as the affected environment for this NEPA analysis of cultural resources.

BLM establishes NRHP eligibilities to determine which cultural sites are considered *historic properties* under Section 106. Historic properties are defined as NRHP-listed and NRHP-eligible cultural resources (36 CFR § 800.16(l)(1)). Next, BLM determines whether any anticipated impacts of the NEPA action may have potential to pose adverse effects to historic properties. When evaluating potential effects to historic properties prior to making route designations the BLM considers many additional factors, including but not limited to the current use-level of the route (primary, secondary, or tertiary), durability of its surface (natural soil, native surface, bladed, constructed, graveled, paved, etc.), orientation and in situ location of the property (horizontal or vertical, surface or subsurface, intact or disturbed, etc.), condition of the artifacts and features (stable, eroding, highly fragile, etc.), spatial relation between route

and significant resource components (route in/out of contributing/non-contributing), the extent of existing impacts caused by past events (minor, moderate, major), and current level of BLM visitor management (none, monitored, patrolled, signed, developed, interpreted, etc.).

Adversely affecting a historic property under Section 106 means the action's impacts could potentially alter the content and characteristics of a historic property to the extent the site could no longer be NRHP-listed or -eligible (36 CFR § 800.5(a)[1]). Put simply, an **adverse effect** determination means the action has potential to damage significant archaeological artifacts, features, and data to a degree that the historic property could no longer contribute important information to the understanding of our national and regional histories. Section 106 determinations of **no adverse effect** and **no historic properties affected** can involve impacts to sites, but the degree of those impacts would not be high enough to damage the character, integrity, or NRHP-eligibility of the site.

Analysis of cumulative impacts for NEPA corresponds to the Section 106 analysis of cultural resources in the indirect APE; those cultural resources that could potentially be affected further in time or farther in distance—in other words, cumulative effects of federal actions in the TMA, within 0.25-mile of the edges of the routes being considered for designation as OHV-Open or OHV-Limited under this federal action.

### ***Protecting Cultural Resources***

Standard BLM policy for protecting cultural resources from adverse effects from land use decisions is provided to Field Office managers (i.e. Agency Officials) in BLM Manual 8140: *Protecting Cultural Resources*. BLM's stated objectives for protecting cultural resources on BLM-administered public lands include managing them "in a manner suited to the characteristics, attributes, and uses that contribute to their public importance; toward giving adequate consideration to the effects of BLM land use decisions on cultural properties; toward meeting legal and regulatory obligations through a system of compliance fitted to BLM's management systems; and toward ensuring that cultural resources on public land are *safeguarded from improper use and responsibly maintained* in the public interest" (BLM 2004).

### **Avoidance**

BLM policy states "The Field Office manager's *first choice shall be to avoid National Register listed and eligible properties* that would otherwise be affected by a proposed land use, if it is reasonable and feasible to do so" (BLM 2004). Reasonableness is defined as "a measure of proportion and prudence", meaning the level of adjustment BLM makes to a land use decision in order to avoid adverse effects to a historic property should judiciously be equal to or comparable in scope and effect to the historic property's "evaluated significance, data value, or preservation value" (BLM 2004). The reasonableness of an adjustment for avoidance of a historic property should also take into account the site's type and contents, its level of fragility as a unique and non-renewable resource, and its significance to its living cultural community, among other considerations. Feasibility of avoiding a historic property is often determined by the type of land use proposed, its specific purpose and need, availability, and the landscape.

When avoidance of a historic property is not reasonable or feasible during a land use decision, a set of standard administrative and physical conservation measures should be used as management tools by the BLM. These conservation measures can be applied to the historic property directly as a site treatment, indirectly as a management measure for the area of the historic property, or administratively depending on each unique situation. Administrative and indirect methods of site conservation do not modify the resources, while direct methods do.

### **Administrative Conservation Methods**

**Closure to Public Access and Off-Highway Vehicles:** *Areas may be temporarily closed to public use and travel to facilitate special cultural uses or to protect scientific studies. Public lands may also be designated as indefinitely limited or closed to the use of off-highway vehicles<sup>1</sup>.* Route closure can be implemented to avoid physical adverse effects caused to historic properties by recreational OHV use and

dispersed camping. The heavy tread on modern four-wheel drive tires can damage features in unpaved roads when repeatedly driving over them, eroding ruts into the sand or dirt that expose and damage significant cultural deposits that otherwise would stay intact and protected subsurface. When OHVs are driven on wet roads the impact to features and cultural deposits can be multiplied when the heavy vehicles sink inches into muddy soil or widen route disturbance footprints by driving around puddles.

**Special Designations:** *Individual cultural properties or districts may be nominated to and listed on the National Register of Historic Places to recognize and reinforce their special management status<sup>1</sup>.*

**Public Information and Education:** *Efforts to inform and educate the public about local cultural resource significance and conservation ethics may help decrease vandalism and ensure compliance with use restrictions<sup>1</sup>.*

### **Indirect Conservation Methods**

**Designated route signage and delineation** can be used to keep meandering vehicles on designated route footprints in areas where the routes may not be visually obvious for drivers. Installing signs and route indicators can be effective at stopping intentional or unintentional cross-country route proliferation that can adversely affect sites. In areas where sandy dunes may shift and obscure roads, small cobbles can be used to line the edges of route footprints to indicate the path vehicles should stay within. Over wide areas of bedrock designated routes can be indicated with a single line of white paint down their center for drivers to stay on course.

**Vehicle barriers** can be installed where unauthorized public vehicle use is persistently adversely affecting sites or significant components of sites. Barriers can be constructed of natural boulders, earthen berms, signs, or fencing. Barriers can be installed to delineate vehicle parking where visitors need to proceed on foot to explore areas where resources need to be protected.

**Fencing/gating:** *Fences, barriers, and gates of various materials can be used alone or in combination with other methods to restrict access. The selection of designs and materials must avoid unwarranted intrusion on the property. Maintenance and safety requirements must also be considered in the design<sup>1</sup>.*

**Signage:** *Under conditions of active or potential vandalism, cultural properties should be adequately signed, identifying the protection afforded by law. Signs should be placed so as not to intrude upon the property or to draw unwanted attention to it. Educational signs may also be appropriate for some properties and may protect them by promoting conservation ethics<sup>1</sup>.*

**Patrol/Surveillance:** *Patrol and surveillance are determined by and scheduled according to the nature of the resource, degree of threat present, and the uses appropriate for the cultural resources involved<sup>1</sup>. Irregularly scheduled patrols are among the best means of deterring looting, vandalism, and other unauthorized uses. Besides staking out a site, surveillance can be accomplished through detection systems; however, installation of surveillance equipment should not impair or compromise the integrity of the cultural resources<sup>1</sup>.*

**Detection Measures and Procedures:** *Unauthorized use can be detected during routine fieldwork or as a result of specifically designed patrols. Detection measures can include inspection of cultural properties to document changes in site condition due to vandalism and to observe and note other types of unauthorized uses. These inspections should be systematic and repetitive to maximize detection capability. Coordination with law enforcement will increase efficiency of detection measures and procedures<sup>1</sup>.*

**Monitoring programs:** Sites can be placed on a monitoring program as a detection procedure for unauthorized use. Site monitoring involves regular, periodic visits to sites to monitor impacts and changes to the sites over time. Site monitoring can be done by BLM law enforcement, BLM archaeologists, BLM staff, student interns, advocacy groups, or volunteer programs in coordination with BLM. Monitoring visits involve visual inspection of the sites in comparison to the last site recording form and noting

changes to the sites such as new vandalism, looting, dispersed camping impacts, modern trash, new vehicle tracks, missing artifacts, damage to site structures or features, missing or damaged BLM signs, fence damage, and more. During the first monitoring visit, key observation points are established for photographs of significant site components and existing impacts to compare over time, and additional photographs are taken of any new impacts or changes to the sites. These monitoring notes and photographs can be important evidence during law enforcement investigations and prosecutions if vandalism or looting are reported.

Frequency of monitoring visits can be established based on the level of risk to each site. Sites with a low level of unauthorized use risk, such as those in very remote areas less frequented by public recreationists, may be placed on a monitoring program of visits once every three to five years. Sites with a moderate level of risk, such as sites on main roads or in the vicinity of campgrounds, may be placed on a monitoring program of visits once every one to three years. Sites with a high level of risk, such as those with high tourist visitation, or recent and repeated incidents of vandalism or looting, may be monitored one to four times a year or more. Frequency of the monitoring program at each site can be adjusted up or down over time in response to the results of monitoring – reports of illegal activities or increased tourism are the most common reasons to increase frequency of monitoring and surveillance at a site. Conversely, if monitoring results over time indicate no unauthorized use and impacts are not occurring at that site, it may be monitored less frequently or removed from the monitoring program to redirect the monitors to sites of higher risk.

### **Direct Conservation Methods**

**Surface Treatments:** physical methods to protect exposed site features such as geotextile mesh, steel plates, concrete pillows, adding gravel or soil, or other surface stabilizing means can be considered. The intent of these treatments is to protect a historic property in its current location while maintaining its integrity, requiring monitoring, and maintaining both the site's integrity and the structure's effectiveness in perpetuity. Generally, successful implementation of this treatment is difficult, and cost can be a consideration. Stabilization-in-place using soil and hand reclamation methods can be the simplest and most effective surface treatment to stabilize partially eroding features if development is not a component of the undertaking.

**Data Recovery through Site Testing or Excavation:** *may be applied to cultural properties undergoing or threatened with deterioration, where [the Agency Official] determines that protection by physical or administrative protection measures is not appropriate<sup>1</sup>.* However, these measures typically are not preferred for mitigating adverse effects from non-destructive undertakings such as this TMP, which is not authorizing new construction of roads or creating new ground disturbance. Archaeological excavations are destructive in nature and while exact and thorough data, maps, and photographs are gathered by professionals during excavation and collected artifacts are archived in museums, the ultimate result is removal of the historic property from its original in-situ location where it was created, which completely separates it from its prehistoric or historic context. Due to the destructive nature of data recovery through testing or excavation, it is not recommended except as a last resort in situations where the data would otherwise be lost due. This TMP will only authorize as-is, where-is continued use of existing routes in the SRS TMA, and therefore neither site testing nor excavation are considered appropriate mitigation methods.

### ***Historic Properties Proposed for Treatment***

Thirty-nine historic properties on BLM-administered land in the SRS TMA were identified during the Class III Intensive Field Surveys that could be harmed by potential adverse effects from the SRS TMP undertaking. BLM will conduct a combination of treatments with the objective of avoiding, minimizing, and mitigating the potential adverse effects.

These treatments can include the above-described protective measures in combinations based on site specific conditions, to create best management practices for each unique situation. Many historic properties in this treatment plan have features observable from the adjacent vehicle routes and dispersed camp spots that draw recreationists to the sites; some historic properties have direct impacts from vehicle tires; evidence of vandalism and looting are common at most historic properties in the TMA, and many historic properties have accumulated damage from recreational use of the land resulting in wear and tear of routes and dispersed campsite proliferation. All these impacts and more can be reasonably foreseen to continue damaging the historic properties after approval of the TMP unless protective conservation methods are implemented to avoid, minimize, and mitigate the adverse effects.

## APPENDIX G ROUTE REPORTS

Using the route evaluation inventory, a BLM IDT and their cooperators met for several planning sessions to systematically review and evaluate each of the routes. During route evaluation, the BLM IDT used the ARS Route Evaluation software and GIS to systematically review, discuss, and document each route's location, physical characteristics, current designations, operation and maintenance, authorized and permitted uses, public uses, associated biomes, all known natural and cultural resources, proximity to resources of concern, specially designated areas, purpose and need of the route, and resource issues. Each intensive evaluation session included ongoing interactive IDT and cooperator discussions of each route's resource and resource use concerns, as well as any route-specific public scoping information and cooperator input available at the time of the evaluation process.

For each route, the IDT also considered and addressed the 43 CFR § 8342.1 Designation Criteria, selecting applicable rationale demonstrating how the route would minimize impacts for each of the route's preliminary alternative designations. The process resulted in extremely thorough data capture, produced a preliminary range of reasonable designation alternatives for each route based on the alternative themes, and created a complete record of the process as documented in the route reports.

The full collection of route reports is available on the BLM's [ePlanning site](#). Route reports provide a record of the IDT's evaluation of each route. The header of each page of a route report displays the number that was used to identify the route during evaluation (e.g., SS1112). The number placed on published maps and used on route signs may not be the same. Each route report includes three sections: "General Background," "Evaluation Information," and "Designation Alternatives."

Disclaimer: Not all route reports will match perfectly with the analysis work completed in the Environmental Assessment (EA). Route reports are how BLM documented its process for reviewing routes on a route-by-route basis using the best data available at the time of evaluation. Since the original evaluations, new resource inventories have been completed and improved GIS layers have also been developed. BLM again chose to use the most current and best available data for the resource analysis work. Because of this situation and time gap, there may be some discrepancies between the route forms and the EA. BLM has attempted updating the routes forms periodically but recognizes that some mistakes may still be present. When a discrepancy is found between the EA/GIS layers and a route forms, what is said in the EA and most recent GIS layers will supersede.

### General Background

The first part of the "General Background" section of a route report shows the route's evaluation session date, the name of the session's contracted facilitator (in this case, planners working for BLM's contractor), and the BLM resource specialists (biologists, archaeologists, recreation planners, etc.) responsible for evaluation of the route. The second part of the "General Background" section provides physical information about the route such as length, width, route class, use, jurisdictions over which it passes, and origin (if known). This section also discloses the level of maintenance a route receives, if any. Routes that are noted as *bladed* or *regularly maintained* are likely to see a higher level of use and, because they are bladed and tend to be wider as a result of routine blading, minimize the need for vehicles to travel off-route for the purposes of passing or parking. Routes that are *minimally* (i.e., *infrequently*) *maintained* or for which no maintenance is recorded in the route report may occasionally receive light maintenance but tend to be narrower user-created two-track type routes. The route class identified by the IDT (Road, Primitive Road, or Trail as defined by Manual 1626 Travel and Transportation Manual) also helps define how the BLM would manage or maintain that specific route. Other information may also be included along with citizen comments and proposals, as applicable. For additional information about the maintenance of the routes and the route classes, see the EA's Appendix H, the Implementation Guide.

**\*\*SAMPLE\*\* Route Report for SS1112**

**Facilitator(s):** Cam Gale

**Initial Evaluation Date:** 10/10/2019

**Evaluators:** **Jerrad Goodell**, Aquatic Ecologist  
**Myron Jeffs**, Outdoor Recreation Specialist

**Kegen Benson**, Biologist  
**Stephanie Howard**, Branch Chief for  
NEPA and GIS  
**Marc Johson**, Natural Resource Specialist  
**Rebecca Anderson**, Geologist  
**Jason Carlile**, Range Specialist  
**Jim Davis**, Resource Specialist

**Michael Knight**, GIS Specialist  
**Veronica Kratman**, Realty Specialist  
**William Brant**, Archaeologist  
**Natalie Fewings**, Archaeologist

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<b>TMA:</b>	San Rafael Swell TMA		
<b>Management Zone:</b>	Humbug/Chimney Rock Route Network Geographic Area		
<b>Length:</b> 1.32 mi.	<b>Width:</b> Motorcycle Track	<b>Class:</b> Trail	<b>Use Level:</b> Medium
<b>Route Type(s):</b>	Spur; Braided		
<b>Surface:</b>	None identified by IDT	<b>Maintained:</b>	Minimally by County
<b>Origin:</b>	None identified by IDT	<b>Constructed:</b>	None identified by IDT
<b>Jurisdictions:</b>	BLM		

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**Additional Information:** County Class D.

## General Evaluation Questions

<b>Does this route:</b>	
• either wholly or in part, have a right-of-way grant or is it simply an officially-recognized route maintained by a county or another government agency?	<b>NO</b>
• provide commercial, private property, or administrative access, e.g., via permit, ingress/egress rights or other jurisdictional responsibility?	<b>YES</b>
• provide a principal means of connectivity within a Travel Management Area or Management Zone?	<b>NO</b>
• exist as a result of a previous agency land use or implementation-level planning document decision and is managed as a transportation facility asset?	<b>YES</b>
• provide an important linkage between Travel Management Areas or Management Zones?	<b>NO</b>
<b>Does this route provide network connectivity that contributes to recreational opportunities, access to specific recreation sites, public safety, or other public multi-use access opportunities enumerated in agency Organic laws?</b>	<b>YES</b>
<b>Might the continued use of this route potentially impact:</b>	
• State or Federal special status species or their habitat?	<b>YES</b>
• protected resources or objects identified in Agency planning documents?	<b>YES</b>
• any special area designations, e.g., National Monuments?	<b>YES</b>
• any other resources of concern?	<b>YES</b>
<b>Can the anticipated potential impacts to the identified resources be avoided, minimized, i.e., reduced to acceptable levels, or be mitigated?</b>	<b>YES</b>
<b>Can the commercial, private property, recreation or public uses of this route be adequately met by another route or routes that may minimize impacts to the resources identified as part of this evaluation or that may minimize cumulative effects on various other resources?</b>	<b>NO</b>

## Evaluation Information

### Introduction

Evaluation information in a route report is divided into three colored boxes that address the topics of commercial, administrative, property, and economics (yellow); public uses (blue); and special resource concerns (green).

### Commercial, Administrative, Property, and Economics

The first part of the “Evaluation Information” section focuses on commercial, administrative, property, and economic issues. In this section, a listing of facilities and access is provided. There are three types of access identified:

- Primary = Main access
- Alternate = Secondary or backdoor access
- Link = Route necessary for use of the primary access

## Evaluation Information

### Commercial, Administrative, Property and Economics

The following items help to identify the purpose and need of this route. This route provides access to the following facilities and/or jurisdictions for the purpose of carrying out administrative and/or authorized operations or for jurisdictional access.

**Primary Access** *(leads directly to the listed jurisdiction or facility, and IS the main route used for access)*

Type	Description
Lease Facilities	Commercial Rec Permit
Range Facilities	Active Allotment
Mineral Facilities	Mining claim

**Alternate Access** *(leads directly to the listed jurisdiction or facility, but IS NOT the main route used for access)*

Type	Description
None identified by IDT	

**Link Access** *(does not lead directly to the listed jurisdiction or facility, but is required to access a primary access route)*

Type	Description
None identified by IDT	

## Public Uses

The second part of the “Evaluation Information” section focuses on public uses and provides a list identifying the facilities, modes of transportation, and activities associated with the route. If a facility, mode of transportation, or activity was not identified as associated with the route, it is not listed. As in the Commercial, Administrative, Property, and Economics section, facility access is listed using the categories of “Primary,” “Alternate,” and “Link.” Mode of transportation and activity are indicated by:

- Primary = Main mode or activity on the route
- Secondary = Other common modes and activities
- Infrequent = Uncommon modes or activities

### Recreational Uses

The following items help to identify the purpose and need of this route. This route:

- provides public travel access to the listed recreation sites using the listed travel modes, and/or
- provides for recreational activity and experience opportunities in the area, and/or
- provides important route network connectivity for recreational access between two or more other routes.

#### **Primary Access/Uses** (main route used to access the destinations or use activities listed)

Type	Description
Activities	Vehicle Exploring
Modes of Transportation	Motorcycle

#### **Alternate Access / Secondary Uses** (used to access the destinations or use activities listed, but not considered the main route)

Type	Description
None identified by IDT	

#### **Link Access / Infrequent Uses** (rarely used to access the destinations or use activities listed)

Type	Description
Activities	Camping
Modes of Transportation	ATV

**General Memo(s):** IDT review of this route's purpose and need (11/14/2023 Daniel Kauffman, Blake Baker, Kyle Smith ): This network is the Humbug Flats/Chimney Rock Route Network Geographic Area. This area includes the following routes: SS1096, SS1097, SS1102, SS1108, SS1109, SS1459, SS1460, SS1461, SS1471, (SS1485- leads to Grassy Trail Network) SS1496, SS1498, SS1499, SS1525, SS1531, SS1532, SS1534, SS1539, SS1547, SS1547B. (Single Track Only Network) - SS1112, SS1472, SS1473, SS1474, SS1477, SS1478, SS1486, SS1492, SS1494, SS1515, SS1533, SS1541, SS1542 SS1543, SS1544, SS1548, SS1551, SS1555, SS1556, SS1561. These are main access roads to the Chimney Rock area. These routes are provide for route network connectivity.

### Resource and Resource Use Issues

The third part of the "Evaluation Information" section focuses on special resource concerns. General issue questions for special resource concerns are answered. Then resources and concerns are identified. These are grouped into general categories such as:

- Biome
- Special status animals
- Managed species
- Resource issues, etc.

In the "Special Resource Concerns" box, routes are characterized as:

- In = Route or a portion of the route is in the resource area or area of concern
- Leads To = Route provides access to the resource area or area of concern but is not in the resource or area
- Crosses = Route crosses the resource (e.g., a route crossing a stream or a cultural site directly on the route)
- Within x distance = Proximate to; the route is near the resource or area of concern as indicated by the distance

### Resource and Use Issues

The following items help to identify potential natural and cultural resource issues associated with the location and use of this route. This route is located in, leads to, crosses, or is within a set distance of the following resources or issues.

Resource Type	Description
Biomes	In Mixed Desert Saltbush In Other - Wash, Intermittent, Perennial (Intermittent stream) In Mixed Sagebrush Shrubland
Special Status Animals	In Fringed myotis modeled habitat (S) In Spotted bat modeled habitat (S) In Townsend's big-eared bat modeled habitat (S) Within 1800 feet of Yellow-billed cuckoo potential habitat (T) Within 1800 feet of Southwestern willow flycatcher potential habitat (E) Crosses White-tailed prairie dog modeled habitat (S)
Managed Species	In Pronghorn year-long substantial habitat Within 1800 feet of Migratory bird high-value habitat
Special Status Plants	In Thompson's talinum, Cedar mountain flameflower ( <i>Phemeranthus thompsonii</i> )
VRM/RSC	In VRM Class III - Partially Retain existing char. In Inventory Class III
Special Management Areas	In Lands w/ Wilderness Character
Water Resources	Crosses Wash Crosses Intermittent stream
Misc. Resources	In PFYC Class 2 - Low In Erosive soil - High potential / saline soils In Cryptobiotic soil In Erosive soil - Moderate potential In PFYC Class 3 - Moderate In PFYC Class 5 - Very high
Resource Issues	In Noxious weeds

*Note: Specific sensitive resources, such as cultural resources, paleontological resources, or threatened or endangered species are not listed in this report for their protection, but were considered during the evaluation of this route.*

### Designation Alternatives

The route report also contains the IDT's evaluation of alternative designations for each route. Alternative A (No Action) simply states the current route and area designation (no color). The action alternatives (Alternatives B, C, and D in this example) are color-coded to "Open w/Management" or "Open" (green), "Limited w/Management" or "Limited" (orange), and "Closed" (pink).

For Open and Limited designations, "w/ Management" indicates that there are types of limitations, and that there would be adaptive management or other specific mitigation, maintenance, and/or monitoring that was identified during evaluation. The "w/ Management" portion of Limited and Open designation labels are route specific; it is not used in designation labels found earlier in this document. If there is management assigned to the selected designation for the route, that management will be required as part of the TMP. All management actions are listed in the tables of Appendix H (Implementation Guide).

Limited alternatives include specific limitations regarding route use (e.g., limited by season, vehicle width, etc.). For Closed alternatives, information is provided about how routes would be closed/decommissioned. Also, if a route is redundant to another route, that is specified.

The Designation Alternatives also documents how the BLM IDT assessed the manner in which each potential route designation within the TMA is consistent with 43 CFR § 8342.1.

## Potential Alternative Route Designations

### Alternative A (Current Management, No Action Alternative)

**Area Designation:**

Limited to Designated Routes

**Designation per 43 CFR § 8342.1:**

OPEN

This route was designated open to all users, year-round, as part of a planning and NEPA process and is currently managed as a BLM transportation asset.

### Alternative B

**Designation per 43 CFR § 8342.1:**

CLOSED

This route will be decommissioned and will not be managed as a BLM transportation asset. Unless otherwise signed, cross-country foot and animal use is allowed in the area.

**Specific Designation Criteria Addressed and Relevant to Route Issues:**

- 43 CFR § 8342.1 (a) Areas and trails shall be located to minimize damage to soil, watershed, vegetation, air, or other resources of the public lands, and to prevent impairment of wilderness suitability.
- 43 CFR § 8342.1 (b) Areas and trails shall be located to minimize harassment of wildlife or significant disruption of wildlife habitats. Special attention will be given to protect endangered or threatened species and their habitats.

**How Designation Addresses Criteria Above:** Closing this route would reduce overall impact of vehicle use and route footprint in the area. Closing this route would minimize potential impacts to wildlife habitats by eliminating motorized use and removing the route footprint. By closing this route, traffic volume in the area would be reduced, minimizing the potential for impacts to sensitive animal species. Per the Settlement, BLM is directed to analyze within LWCs at least one alternative route network that would enhance BLM-inventoried wilderness characteristics by designating the routes or the relevant portions thereof as closed to public ORV use.

**Designation Criteria Addressed but Not Relevant to Route Issues:**

*(no known conflicts among users or no known resource concerns to minimize for)*

- 43 CFR § 8342.1 (c)
- 43 CFR § 8342.1 (d)

**Closure Method(s):** Sign Closed, Natural rehabilitation

**Memo(s):** IDT review of how this designation addresses the designation criteria (11/14/2023 Daniel Kauffman, Blake Baker, Kyle Smith ): Closing this route in alt B would reduce the overall route footprint in the area and eliminate public motorized use on this route. This would also reduce the potential for impacts to resources associated with this area.

## Alternative C

### **Designation per 43 CFR § 8342.1:**

#### **LIMITED**

Public use of this route is limited to transportation type. The public may use this route by single track vehicles (including motorcycles and all non-motorized modes), year-round.

### **Specific Designation Criteria Addressed and Relevant to Route Issues:**

- 43 CFR § 8342.1 (a) Areas and trails shall be located to minimize damage to soil, watershed, vegetation, air, or other resources of the public lands, and to prevent impairment of wilderness suitability.
- 43 CFR § 8342.1 (b) Areas and trails shall be located to minimize harassment of wildlife or significant disruption of wildlife habitats. Special attention will be given to protect endangered or threatened species and their habitats.

**How Designation Addresses Criteria Above:** Allowing continued use of this route would minimize the potential for impacts to documented resources by providing targeted recreation activity and experience opportunities that reduce or eliminate the inclination for users to travel off-route. Route provides access to unique and/or exceptional recreational opportunities without causing greater than minimal adverse effects on documented resources.

### **Designation Criteria Addressed but Not Relevant to Route Issues:**

*(no known conflicts among users or no known resource concerns to minimize for)*

- 43 CFR § 8342.1 (c)
- 43 CFR § 8342.1 (d)

**Memo(s):** IDT review of how this designation addresses the designation criteria (11/14/2023 Daniel Kauffman, Blake Baker, Kyle Smith ): Limiting this route provides the least resource damaging access to the feature identified in the purpose and need because the route currently exists and the area has already been identified for this type of public motorized use. Under alternative C, the impacts to resources in this network area would be minimized by closing other routes within this network area (see Appendix C of the EA for additional minimization considerations and mileage details for this network area).

## Alternative D

### **Designation per 43 CFR § 8342.1:**

#### **OPEN**

This route is open to all users, year-round.

### **Specific Designation Criteria Addressed and Relevant to Route Issues:**

- 43 CFR § 8342.1 (a) Areas and trails shall be located to minimize damage to soil, watershed, vegetation, air, or other resources of the public lands, and to prevent impairment of wilderness suitability.
- 43 CFR § 8342.1 (b) Areas and trails shall be located to minimize harassment of wildlife or significant disruption of wildlife habitats. Special attention will be given to protect endangered or threatened species and their habitats.

**How Designation Addresses Criteria Above:** This is a County Class D road. The BLM will work with permittees, ROW holders, counties, and other stakeholders as needed to minimize any known resource impacts or user conflicts in accordance with applicable laws and regulations. Allowing continued use of this route would minimize the potential for impacts to documented resources by providing targeted recreation activity and experience opportunities that reduce or eliminate the inclination for users to travel off-route.

### **Designation Criteria Addressed but Not Relevant to Route Issues:**

*(no known conflicts among users or no known resource concerns to minimize for)*

- 43 CFR § 8342.1 (c)
- 43 CFR § 8342.1 (d)

**Memo(s):** IDT review of how this designation addresses the designation criteria (11/14/2023 Daniel Kauffman, Blake Baker, Kyle Smith ): Opening this route provides the least resource damaging access to the feature identified in the purpose and need because the route currently exists and the area has already been identified for this type of public motorized use. Under alternative D, the impacts to resources in this network area would be minimized by closing other routes within this network area (see Appendix C of the EA for additional minimization considerations and mileage details for this network area).

## Alternative E

### **Designation per 43 CFR § 8342.1:**

CLOSED

This route will be decommissioned and will not be managed as a BLM transportation asset. Unless otherwise signed, cross-country foot and animal use is allowed in the area.

### **Specific Designation Criteria Addressed and Relevant to Route Issues:**

- 43 CFR § 8342.1 (a) Areas and trails shall be located to minimize damage to soil, watershed, vegetation, air, or other resources of the public lands, and to prevent impairment of wilderness suitability.
- 43 CFR § 8342.1 (b) Areas and trails shall be located to minimize harassment of wildlife or significant disruption of wildlife habitats. Special attention will be given to protect endangered or threatened species and their habitats.

**How Designation Addresses Criteria Above:** Closing this route would reduce overall impact of vehicle use and route footprint in the area. Closing this route would minimize potential impacts to wildlife habitats by eliminating motorized use and removing the route footprint. By closing this ro

### **Designation Criteria Addressed but Not Relevant to Route Issues:**

*(no known conflicts among users or no known resource concerns to minimize for)*

- 43 CFR § 8342.1 (c)
- 43 CFR § 8342.1 (d)

**Closure Method(s):** Sign Closed, Natural rehabilitation

**Memo(s):** Refer to the Decision Record for a summary of the decision rationale for this route.

## **APPENDIX H IMPLEMENTATION GUIDE**



**Price Field Office  
125 South 600 West  
Price, Utah 84501  
Phone: 435-636-3600  
Fax: 435-636-3657**

**Richfield Field Office  
150 East 900 North  
Richfield, UT 84701  
Phone: 435-896-1500  
Fax: 435-896-1550**

## LIST OF ACRONYMS

<b>BLM</b>	Bureau of Land Management
<b>CFR</b>	Code of Federal Regulations
<b>GIS</b>	Geographic information system
<b>GPS</b>	Global positioning system
<b>GTLF</b>	Ground Transportation Linear Features
<b>HPTP</b>	Historic Properties Treatment Plan
<b>MUTCD</b>	Manual on Uniform Traffic Control Devices
<b>OHV</b>	Off-highway vehicle
<b>PFO</b>	Price Field Office
<b>RFO</b>	Richfield Field Office
<b>RMP</b>	Resource Management Plan
<b>ROW</b>	Right-of-way
<b>TMA</b>	Travel Management Area
<b>TMP</b>	Travel Management Plan

## **H.1 INTRODUCTION**

This document, the TMP Implementation Guide (Guide), is specific to Alternative E and discusses the steps to be taken after the BLM adopts the new TMP. These include:

- Conduct education and outreach.
- Install signs.
- Maintain routes as appropriate.
- Enforce the TMP.
- Monitor effects.
- Reclaim routes as appropriate.

The measures contained in this guide will assist the BLM in minimizing impacts to natural and cultural resources and reducing user conflict. The commitments in tables Appx-xx, Appx-33, Appx-36, and Appx-37 will occur in the timeframes listed. These commitments were based on the sensitivity of the resources affected, and were identified by the interdisciplinary team during route evaluations and confirmed by management. Additional implementation timing is subject to available staff and funding. Grants, new appropriations, partnerships, and volunteers may be used to supplement budgets and workforce when possible.

Cultural site treatments will be implemented as identified in the Historic Properties Treatment Plan (HPTP). Thirty-nine sites were identified as potentially subject to adverse effects, which the BLM plans to resolve by implementing administrative, indirect, and direct protective measures to avoid, minimize, or mitigate the effects following standard BLM policies (for details, see Appendix F). The BLM completed consultation on the HPTP by working with identified Section 106 consulting parties and tribes, and received concurrence from the Utah State Historic Preservation Office. Site treatments to be implemented at 38 of the sites will include regular monitoring of 25 sites, 19 route closures, 11 dispersed campsite closures, disassembly of approximately 14 modern campfire rings from within sites, installation of at least 30 signs (regulatory, protective, directional, and administrative), construction of three protective fences, installation of four protective barriers, law enforcement patrol of eight sites for specific issues, seven professional site recordings and evaluations, and stabilization of one site through reclamation of an earthen knoll with drainage control measures. The remaining site, the Temple Mountain Uranium Mining Complex, is a large historic district comprised of hundreds of mining features and artifacts that will require implementation of 54 route closures to stop adverse effects from proliferation, delineation of 30 designated OHV routes, five educational signs, several regulatory signs, many directional signs, and regular monitoring. These site treatments will be implemented over the next three to five years. The above numbers are based on current situations in the field; in the event that factors change on the ground throughout the implementation process, minor adaptive management may occur to best address the issues as observed on the ground.

## **H.2 EDUCATION AND OUTREACH INCLUDING MAPS**

The objectives of education and outreach for the TMP are to attain voluntary public compliance with the designations. The BLM will develop education and outreach materials specific to the TMP. Potential methods of education and outreach include:

- News releases and social media posts
- BLM maps (hard copy, georeferenced PDF maps, and interactive web maps)
- Commercial maps (e.g., National Geographic and Latitude 40)
- Ensure designated route data and layer files are provided to commonly used mapping applications (On X, All Trails, Gaia, Trailforks, Google, Garmin, etc.)

- Signs (see Section H.3 in this appendix)
- Visitor center displays
- In-person public presentations
- Website/electronic media distribution (e.g., ArcGIS Online map server, Google Earth keyhole markup language (KML) and keyhole markup language zipped (KMZ) files, and universal global positioning system (GPS))
- Brochures and guides
- Partnerships with a broad range of local, county, state, tribal, and federal agencies, as well as service-oriented volunteers, schools, and non-governmental organizations (e.g., Tread Lightly! Inc. and Leave No Trace education and outreach resources)

Policy for education and outreach on BLM lands can be found in the BLM's 1996 Volunteer Manual (BLM 1996), Travel and Transportation Management Handbook (BLM 2012a), Sign Handbook (BLM 2016a), and Sign Manual (BLM 2004c).

Currently known education and outreach through interactive maps and mapping information will occur as shown in Table Appx - 34.

**Table Appx - 33: Education and Outreach**

Commitment	Description	Timeframe	Responsible Party
GTLF updates	Posting route data to GTLF for public use	Immediately after release the Decision	BLM
Georeferenced Maps issuance	Posting georeferenced maps for public use	Immediately after release of the Decision	BLM
GIS data release	Posting route data to eplanning for public use	Upon issuance of the Decision	BLM
Interactive map release	Posting an interactive map to eplanning for public use	Immediately after release of the Decision	BLM

### H.3 SIGN INSTALLATION

Sign installation will minimize impacts and user conflicts by making the route network obvious, promoting the health and safety of visitors to public lands, meeting visitor needs for information and direction, and reducing user or management issues through sharing information. As determined necessary based on professional judgement, the BLM will place TMP signs at route intersections, periodically along the route, at route ends, at route closures, and in areas of resource or user issues. Sign categories that may be installed include identification, guide (navigation), informational, traffic control devices, regulatory/warning/safety, and miscellaneous (e.g., temporary, special event, etc.) (BLM 2016a). To limit the number of markers at an intersection, two routes may be identified on one post using arrow symbols and using both sides of the double-sided fiberglass posts. Signs will be updated, repaired, or replaced as soon as possible; signs that are found to be unnecessary will be removed. This TMP would authorize the installation of signs including signposts in previously disturbed areas and adjacent to the road. The sign types may include directional, portal, and informational. The BLM will use the minimum necessary sign type to achieve route clarity. Installation of signs is categorically excluded from NEPA (516 Departmental Manual 11.9(G)(2). Installation of kiosks is not authorized in this TMP. The BLM will prioritize placing the following signs to minimize impacts and user conflicts through clarifying the network and sharing information:

- In areas with public health and safety concern

- At entrances to and boundaries of areas of national significance (e.g., national monuments, designated wilderness areas, etc.)
- At areas of high recreational use or where it may enhance visitor experience and convenience (e.g., recreation sites, trailheads, backcountry byways, etc.)
- Where route use limitations exist (e.g., limited to a vehicle type, route closed to public motorized use, etc.)
- Where users may become confused about the direction, terminus, designation, or alignment of the route
- Where resource conflicts may occur (e.g., routes through special status species habitats)
- Where OHV use may occur on or adjacent to airstrips (e.g., to caution OHVs to avoid driving or parking on the runway surface)
- At appropriate sites, install signs with the intent to provide plain language Archaeological Resources Protection Act information such as identifying vandalism and looting of cultural sites as a felony and stating that violators will be held accountable in a federal court of law.
- In addition, the BLM will coordinate with adjacent landowners, such as Capital Reef National Park, regarding sign planning for mutually desired conditions for visitor education, safety, and posting regulations prohibiting UTVs/ATVs on Park roads

Currently known route-specific signing will occur as shown in Table Appx - 34 if the routes are designated open.

**Table Appx - 34: Route-Specific Signing**

Route Number	Signing Description	Responsible Party
SS2024	Regulatory;	BLM
SS2026	Regulatory;	BLM
SS2044	Regulatory;	BLM
SS2825	Regulatory; Educational	BLM
SS4065	Regulatory; Educational	BLM
SS4562	Regulatory Educational	BLM
SS4564	Regulatory; Educational	BLM
SS3440 & SS3441	Route delineation and regulatory signs. Vehicle must stay on designated routes.	BLM
SS3158	Regulatory; Educational	BLM
SS3532	Regulatory; Educational	BLM
SS3161	Regulatory; Educational	BLM

Policy for signs on BLM lands (installation, ordering, etc.) can be found in the BLM's 2016 National Sign Handbook (BLM 2016a) and the Federal Highway Administration's Manual on Uniform Traffic Control Devices, which is also known as the MUTCD (FHWA 2019). Policies for sign design, use, and location are also included in the BLM's Roads Manual (BLM 2015a), Primitive Roads Manual (BLM 2012d), Sign Manual (BLM 2004c), and Travel and Transportation Management Handbook (BLM 2012a).

## H.4 MAINTENANCE

Maintenance of routes are categorized into one of two categories: 1) routine maintenance that meets the purpose and need of the route and that does not extend beyond the edge of previous route disturbance; or 2) maintenance of a route that exceeds the standard of routine maintenance by either upgrading, widening, re-aligning, or otherwise creating new surface disturbance. Examples of activities within Category 1 include normal grading of the travel surface, repair of an existing culvert. Examples of activities that would be within Category 2 include installation of a new or larger culvert, changing the surface of the road from gravel to paved, installation of a low water crossing. Maintenance of designated routes would typically be conducted as described in the first category. Maintenance of designated routes that fall into the category 2 (i.e., more than routine) would require additional NEPA, and be conducted only after additional site-specific analysis, including appropriate consultation for cultural resources and federally listed species.

Maintenance under the TMP will not change the class, character, function, or recreational experience of the route. Maintenance will minimize impacts and user conflicts by ensuring safety and navigability for designated routes. The BLM will maintain<sup>58</sup> at an intensity level appropriate for the route, and the majority of the routes will have a Level 1 maintenance intensity, as shown in Table Appx - 36. For example, the routes receiving the heaviest use are the routes subject to level 5 maintenance intensity (see Table Appx - 35).

**Table Appx - 35: Maintenance Intensities**

<b>Maintenance Intensity</b>	<b>Descriptions of Routes Under Each Intensity Level</b>
Level 0	Existing routes that would no longer be maintained or declared as routes. Routes identified for removal from the Transportation System entirely.
Level 1	Routes where minimal (low-intensity) maintenance is required to protect or access adjacent lands and resource values. These roads may be impassable for extended periods of time.
Level 3	Routes requiring moderate maintenance due to low volume use (for example, seasonally or year-round for commercial, recreational, or administrative access). Maintenance intensities may not provide year-round access but are intended to generally provide resources appropriate to keep the route in use for the majority of the year.
Level 5	Routes for high (maximum) maintenance because of year-round needs, high-volume traffic, or significant use. May also include routes identified through management objectives as requiring high intensities of maintenance or to be maintained open year-round.

In the route reports, the BLM specified route classes for all routes. The classes include:

- Road: managed for use by low-clearance vehicles having four or more wheels, and maintained for regular and continuous use (BLM 2012a).
- Primitive Road: managed for use by four-wheel drive or high-clearance vehicles, but do not meet any BLM road design standards (BLM 2012a).
- Trail: managed for human-powered, stock, or off-road vehicle forms of transportation, or for historical or heritage values, not generally managed for use by four-wheel drive or high-clearance vehicles (BLM 2012a).

<sup>58</sup> Some routes in the TMP are subject to maintenance by authorized users in accordance with their authorizations (e.g., county roads, mine roads, and utility maintenance roads). They also must maintain the route at an intensity level consistent with their authorization.

- Wilderness Inventory Road: improved and maintained by mechanical means to ensure relatively regular and continuous use (BLM 2024).
- Primitive Route: transportation linear feature located within a WSA, or lands with wilderness characteristics designated for protection by a land use plan, and not meeting the wilderness inventory road definition (BLM 2012a).

Some maintenance information was also noted during the route evaluations. Routes where the maintenance field was left blank were counted with the Infrequently Maintained totals.

**Table Appx - 36: Maintenance Intensity of the Route Class Miles**

Route Class	Inventoried Route Miles (Approximate)	Alternative E Open/Limited Miles	Maintenance Intensity
Road: Regularly Maintained	372	372	Level 5
Road: Infrequently Maintained	41	41	Level 3
Primitive Road: Regularly Maintained	40	39	Level 3
Primitive Road: Infrequently Maintained	1,265	1,006	Level 1 or 0 or 3
Trail: Infrequently Maintained	100	76	Level 1 or 0 or 3
Wilderness Inventory Road: Regularly Maintained	129	129	Level 3
Wilderness Inventory Road: Infrequently Maintained	203	192	Level 1 or 0
Primitive Route: Infrequently Maintained	11	11	Level 1 or 0

Policy for road maintenance on BLM lands can be found in the BLM's Manual MS-9113 – Roads (BLM 2015a), Handbook H-9113-2 – Roads Inventory and Condition Assessment Guidance & Instructions (BLM 2015b), and Handbook H-9115-2 – Primitive Roads Inventory and Condition Assessment Guidance & Instructions (BLM 2012b).

Currently known route-specific maintenance will occur as shown in Table Appx - 37 if the routes are designated open.

**Table Appx - 37: Route-Specific Maintenance**

Route Number	Maintenance Description	Timeframe	Responsible Party
SS2176	Fence Maintenance and Installation	One time within 3 years	BLM
SS2347	Remove blockage	One time within 3 years	BLM
SS3454	Install a barricade as needed with directional signs and regulatory signs to keep people on route.	One time within 3 years	BLM

Additional maintenance measure(s) that would be used in the TMA to minimize impacts through reducing erosion, emissions, weeds, and noise include:

- Treating noxious and invasive weed infestations through mechanical or chemical control in accordance with office and Carbon and Emery counties' weed programs.
- Maintain route drainage to control surface erosion as appropriate.

- Limit idling of heavy equipment and transportation vehicles associated with maintenance activities.
- Utilize the cleanest available engines or best available control technology on heavy diesel equipment associated with maintenance activities.
- Properly maintain heavy equipment engines.
- Limit unnecessary trips to and from the TMA.
- Use noise dampening and minimizing equipment (e.g., mufflers), technology, and engines whenever possible for route maintenance equipment.

## **H.5 ENFORCEMENT**

Enforcement under the TMP will minimize impacts and user conflicts by ensuring user safety and providing appropriate responses to use issues (e.g., user conflicts, resource concerns, etc.). Recently the BLM has added a law enforcement and several seasonal ranger positions to increase interaction with the public. The BLM will continue to assess public interaction needs as it relates to staffing capabilities. The BLM will also continue to conduct routine, highly visible patrols by BLM staff to maintain an effective authoritative presence in the field. Personnel from partner agencies, such as the Utah Division of Wildlife Resources (UDWR), Emery and Sevier County Sheriff's Departments, and the Utah Highway Patrol may also supplement enforcement operations. The BLM will prioritize patrols to minimize impacts and user conflicts including:

- In areas with public health and safety concern
- At entrances to and boundaries of areas of national significance (e.g., national monuments, designated wilderness areas, etc.)
- At areas or times of high recreational use or where it may enhance visitor experience and convenience (e.g., recreation sites, trailheads, backcountry byways, etc.)
- Where route use limitations exist (e.g., limited to a vehicle type, route closed to public motorized use, etc.)
- Where users may become confused about the direction, terminus, designation, or alignment of the route
- Where resource conflicts may occur (e.g., routes through special status species habitats and areas with LWC)
- Routes identified for monitoring (see Table Appx - 38 in Section H.6 below)
- In addition, the BLM will coordinate with partners, such as the Counties, and adjacent landowners, such as Capital Reef National Park, regarding preventing and responding to off-road impacts.

Regulations for enforcement are described in 43 CFR Subpart 8340, 43 CFR Subpart 8360, and 43 CFR § 9268.3. They may be supplemented as deemed necessary by Supplementary Rules, which may be established pursuant 43 CFR § 8360 under a separate action to implement use restrictions identified in RMP decisions. Policy for enforcement is found in Travel and Transportation Management Handbook (BLM 2012a).

## **H.6 MONITORING**

Monitoring will minimize impacts and user conflicts by ensuring that desired outcomes and conditions are achieved and documenting how the decision affects resources over time. The BLM will conduct ad-hoc and strategic monitoring using staff, volunteers, users, and partners as time and funding permit. Ad-hoc monitoring occurs when BLM staff or the public report any observed issues to the appropriate resource staff (Field Manager, Assistant Field Manager, Outdoor Recreation Planner, Field Technician,

etc.). Strategic monitoring occurs when BLM-staff or partners checks implementation of requirements from the TMP (for example, from the San Rafael Swell Baseline Monitoring Report, Biological Opinion, HPTP, or specific route evaluation reports). When monitoring identifies issues, the BLM will address the issues identified at that time. The monitoring program will be used to determine:

- If resource protection and resource use objectives are being met.
- If the plan addresses visitor satisfaction, use patterns, use volumes, and other needs.
- The condition of the routes and compliance with route designations and use restrictions.

TMP monitoring to minimize impacts and user conflicts would prioritize:

- Areas with public health and safety concern
- Entrances to and boundaries of areas of national significance (e.g., national monuments, designated wilderness areas, etc.)
- Areas or times of high recreational use or where it may enhance visitor experience and convenience (e.g., recreation sites, trailheads, backcountry byways, etc.)
- Where route use limitations exist (e.g., limited to a vehicle type, route closed to public motorized use, etc.)
- Where resource conflicts may occur (e.g., routes through special status species habitats, riparian area, or areas with LWC)
- Closed and reclaimed routes

TMP long-term monitoring protocol includes:

- Annual monitoring by BLM staff for 5 years after signing of the TMP. Annual monitoring will include an annual monitoring report housed at the PFO. If monitoring shows adherence to TMP decisions, would quit the reporting. If violations or concerns are found, will continue for additional timeframe based on need of finding.
- Preferred monitoring time of early summer after peak use in the Swell.
- Monitoring the routes with required monitoring (see Table Appx - 38) plus a minimum of 10 additional open routes and 5 closed routes a year comprising at least one primitive route, one UTV route, one class 5 route one route within special status species habitat, one stream crossing route, and one route within LWC.
- Data collection similar to the baseline monitoring effort, to be housed at the PFO.
- Currently known route-specific monitoring will occur as shown in Table Appx - 38 if the routes are designated open.
- Note that all cultural resource monitoring requirements are identified in the Historic Properties Treatment Plan. It identifies 25 sites to be monitored.

**Table Appx - 38: Route-Specific Monitoring**

Route Number	Monitoring Description	Time Length	Responsible Party
SS1072	Monitor for effects to wetland and spring system	5 years	BLM
SS2026	Monitor for adverse effects to resources	5 years	BLM
SS2176	Monitor for effects to resources; fence maintenance	5 years	BLM
SS3085	Monitor for soil erosion/parking delineation	5 years	BLM
SS3278	Monitor for effects to resources	5 years	BLM
SS4065	Monitor for effects to resources	5 years	BLM

Route Number	Monitoring Description	Time Length	Responsible Party
SS3158	Monitor effectiveness of route limitations, signs, and effects to resources.	5 years	BLM
SS3161	Monitor effectiveness of route limitations, signs, and effects to resources.	5 years	BLM
SS3532	Monitor effectiveness of route limitations, signs, and effects to resources.	5 years	BLM
SS4562	Monitor effectiveness of route limitations, signs, and effects to resources.	5 years	BLM
SS4564	Monitor effectiveness of route limitations, signs, and effects to resources.	5 years	BLM

Regulations for TMP Monitoring is contained in 43 CFR § 8342.3. Policy for Travel Management Monitoring is contained in BLM’s Travel and Transportation Management Manual (BLM 2016b), and Appendix R-2 of the 2008 Price RMP and pages 120 and 127 in the 2008 Richfield RMP (see Table Appx - 39).

**Table Appx - 39: 2008 RMP Travel Management-Related Monitoring Methodologies**

2008 Price RMP	
OHV	<p>Travel management and OHV use monitoring within the planning area will focus on compliance with specific route and area designations and restrictions, with primary emphasis on those routes or areas causing the highest levels of user conflicts or adverse impacts to resources. Various methods of monitoring may be employed including: aerial monitoring, ground patrol, “citizen watch,” and appropriate methods of remote surveillance such as traffic counters, etc.</p> <p>Evaluate trail impacts on resources through visual inspections, photo at problem areas (erosion, users short cutting, etc.). Use trail traffic counters where appropriate to determine visitor use levels. Involve volunteers to assist in trail monitoring where appropriate and feasible.</p> <p>Periodically check that routes meet the objectives set forth in the RMP to ensure resource conditions such as water quality, wildlife/fish habitat, or recreational values are maintained and available to communities and users, and ensure resource values are not compromised. Route or area closures will be regularly monitored for compliance. Cooperation with other agencies in travel management and OHV use monitoring will continue to be emphasized, and improved wherever possible.</p>
Transportation	<p>Periodically check that roads meet the objectives set forth in the RMP to ensure resource conditions are maintained and available to communities and users, and ensure resource values are not compromised. Update the Transportation Plan as monitoring needs are found.</p>

2008 Richfield RMP	
Travel Management	<p>Travel management and OHV use monitoring within the planning area will focus on compliance with specific route and area designations and restrictions. Staff will identify specific actions, including timeframes, methods and anticipated resources needs following the established protocols for Comprehensive Travel and Transportation Management. Various methods of monitoring may be employed including: ground patrol, traffic counters, aerial monitoring, photos of problem areas (erosion, users short cutting, etc.) and “citizen watch”. Involve volunteers to assist in monitoring where appropriate and feasible. Cooperation with other agencies in travel management and OHV use monitoring will continue to be emphasized, and improved wherever possible. Primary emphasis will be on designated routes (ways) within WSAs and BLM natural areas, and those routes or areas having the highest potential for user conflicts or adverse impacts to resources. Monitoring will assess whether routes meet the objectives set forth in the RMP and to ensure resource conditions such as water quality, wildlife or recreational values are maintained, and resource values are not compromised. Route or area closures will be regularly monitored for compliance. The monitoring data will be used to assess the effectiveness of the RMP and the associated implementation actions. Modifications to the RMP and route designations may be considered if monitoring indicates that goals and objectives are not being met. Monitoring actions will be reported through the BLM annual workload measure accomplishments and in the Annual Program Summary and Planning Update.</p>
Recreation	<p>Monitoring of recreation resources will continue to occur throughout the planning area. Levels and intensities of monitoring will vary depending on the sensitivity of the resource or area and the scope of the proposed management activities. Monitoring baseline data will be used to develop Limits of Change determinations, manage visitor use, plans and projects to reduce visitor impacts, and to assess whether the desired outcomes of the RMP are being met. Priority will be placed on developed recreation sites and Special Recreation Management Areas (SRMAs) to develop baseline data to be used in SRMA Activity Plans. Periodic patrols of popular undeveloped use areas will be conducted where recreation use is concentrated. Special Recreation Permits will be monitored for compliance with terms, conditions and special stipulations and post-use requirements. Condition assessments of developed recreation sites will be conducted to determine maintenance requirements and ensure public health and safety.</p> <p>Monitoring will emphasize signing, visitor use, identification of areas where there may be problems with compliance with rules and regulations resulting in user conflicts or resource damage, and determining current impacts, levels and patterns of recreational use. Any appropriate methodology will be used including visitor surveys, traffic counters, developed recreation site visitor data, documentation of user conflicts and photo documentation of the changes in resource conditions over time. Visitor use will be reported in RMIS. Monitoring actions will be reported through the BLM annual workload measure accomplishments and in the Annual Program Summary and Planning Update.</p>

## H.7 ROUTE RECLAMATION

Reclamation would minimize impacts by discontinuing use of a route and allow it to return to a natural state. An OHV-Closed designation does not automatically mean that a route will be actively reclaimed because, for example, the route may still be needed by authorized users or for authorized uses. The TMP does not identify any currently known route-specific reclamation needs beyond natural reclamation and vertical mulching see section 3.3.7). However, route-specific reclamation strategies will be identified in the future by BLM resource specialists consistent with BLM policies and may require further site-specific NEPA analysis, as appropriate. To minimize impacts when reclaiming routes, the BLM will use the minimum necessary reclamation technique to achieve reclamation. BLM will inform Emery and/or Sevier counties before any County-classified roads are reclaimed. Routes within LWC, and VRM I and VRM II in the table below would be prioritized for reclamation.

Reclamation techniques include:

- Natural reclamation, where the route would revegetation naturally. This level of reclamation may also include installation of “route closed” or other information signs. In some cases, mechanical tools such as shovels, rakes, and other hand tools may be employed to obliterate tracks, embankments, ruts, water bars and ditches.
- Disguising routes with natural materials, sometimes referred to as “vertical mulching,” where the BLM would place rocks, dead wood and plants in light-of-sight along the route in a natural-looking arrangement). In some cases, mechanical tools such as shovels, rakes, and other hand tools may be employed to obliterate tracks, embankments, ruts, water bars and ditches.
- Barrier installation where the BLM would install natural or human-made barriers such as large boulders or fences with gates to physically prevent unauthorized use. Where possible and practical, these measures may be removed when routes are reclaimed or fully disguised.
- Ripping and reseeding routes, where the BLM mechanically breaks up the route and reseeds it using heavy equipment (e.g., excavators, bulldozers, or harrow or seed drills. Herbicides may also be used for revegetation. Reseeding within wilderness should use predominately native seed mixes. New surface disturbance outside the route footprint is not authorized through the TMP.

To minimize impacts and user conflicts, reclamation effort priorities include:

- Routes that pose a public safety hazard
- Routes leading into a designated wilderness area or a BLM natural area
- Routes causing resource damage, or routes in areas with a high risk for potential impacts to resources such as special status species or their habitat, or any other resources requiring special management or protection.

Policy for reclamation is contained in BLM Utah’s Green River District reclamation guidelines<sup>59</sup>.

**Table Appx - 40: Routes Identified as Suitable for Natural Reclamation and Vertical Mulch Due to No Authorized Use**

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS1002	NO	NO	0.50
SS1003	NO	NO	0.19
SS1005	NO	NO	0.13
SS1006	NO	NO	0.12
SS1007	NO	NO	0.19
SS1008	NO	NO	0.12
SS1009	NO	NO	0.07
SS1011	NO	NO	0.69
SS1012	NO	NO	0.21
SS1018	NO	NO	0.78
SS1027	NO	NO	0.29
SS1028	NO	NO	0.27
SS1030	NO	NO	0.22
SS1031	NO	NO	0.07
SS1033	NO	NO	0.31

<sup>59</sup> [https://www.blm.gov/sites/blm.gov/files/Utah\\_Green\\_River\\_District\\_Reclamation\\_Guidelines.pdf](https://www.blm.gov/sites/blm.gov/files/Utah_Green_River_District_Reclamation_Guidelines.pdf)

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS1034	NO	NO	0.12
SS1036	NO	NO	0.14
SS1038	NO	NO	0.23
SS1039	NO	NO	0.07
SS1040	NO	NO	0.10
SS1043	NO	NO	0.08
SS1047	YES	NO	1.06
SS1049	YES	NO	0.26
SS1056	YES	NO	0.08
SS1057	YES	NO	0.17
SS1058	NO	NO	0.55
SS1062	NO	NO	1.11
SS1063	NO	NO	0.42
SS1071	NO	NO	0.06
SS1075	NO	NO	0.10
SS1076	NO	NO	0.32
SS1080	NO	NO	0.42
SS1082	NO	NO	0.30
SS1085	NO	NO	0.13
SS1089	NO	NO	0.17
SS1090	NO	NO	0.09
SS1091	NO	NO	0.06
SS1092	NO	NO	0.13
SS1093	NO	NO	0.09
SS1095	NO	NO	0.06
SS1103	NO	NO	0.47
SS1104	NO	YES	0.91
SS1106	NO	NO	1.36
SS1110	NO	NO	0.73
SS1111	NO	NO	0.38
SS1112	NO	NO	1.32
SS1113	NO	YES	0.45
SS1117	NO	NO	0.04
SS1121	NO	NO	1.51
SS1122	NO	NO	0.09
SS1126	NO	NO	0.08
SS1128	NO	NO	0.95
SS1132	NO	NO	0.56
SS1133	NO	NO	0.06
SS1143	NO	NO	1.08
SS1144	NO	NO	1.86

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS1148	NO	NO	0.08
SS1149	NO	NO	0.24
SS1151	NO	NO	1.22
SS1152	NO	NO	0.39
SS1157	NO	NO	0.14
SS1159	NO	NO	0.53
SS1160	NO	NO	1.16
SS1161	NO	NO	0.19
SS1163	NO	NO	0.08
SS1164	NO	NO	0.23
SS1167	NO	NO	0.77
SS1168	NO	NO	0.22
SS1169	NO	NO	0.31
SS1171	NO	NO	0.26
SS1172	NO	NO	0.06
SS1176	NO	NO	0.52
SS1179	NO	NO	0.18
SS1184	NO	NO	0.82
SS1188	NO	NO	0.11
SS1190	YES	NO	0.26
SS1195	NO	NO	1.61
SS1196	NO	NO	0.23
SS1197	NO	NO	0.06
SS1200	NO	NO	0.26
SS1209	NO	NO	0.07
SS1211	NO	NO	0.08
SS1212	NO	NO	0.43
SS1216	YES	NO	0.14
SS1218	YES	NO	0.26
SS1219	YES	NO	0.43
SS1220	YES	NO	0.34
SS1235	YES	NO	0.57
SS1239	NO	NO	0.07
SS1251	NO	NO	0.57
SS1254	NO	NO	0.20
SS1261	NO	NO	0.11
SS1264	YES	NO	0.08
SS1265	YES	NO	0.71
SS1275	NO	NO	1.56
SS1276	NO	NO	0.46
SS1277	NO	NO	0.07

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS1278	NO	NO	0.13
SS1279	NO	NO	0.12
SS1280	NO	NO	0.23
SS1281	NO	NO	1.12
SS1295	NO	NO	0.08
SS1297	YES	NO	0.04
SS1300	NO	NO	0.44
SS1301	NO	NO	0.15
SS1302	NO	NO	0.44
SS1310	NO	NO	0.72
SS1314	NO	NO	1.03
SS1318	NO	NO	0.45
SS1319	NO	NO	0.36
SS1320	NO	NO	0.59
SS1321	NO	NO	0.21
SS1325	NO	NO	0.36
SS1328	NO	NO	0.21
SS1329	NO	NO	0.19
SS1331	NO	NO	0.06
SS1332	NO	NO	0.04
SS1336	NO	NO	0.28
SS1337	NO	NO	0.10
SS1339	NO	NO	0.23
SS1346	NO	NO	0.37
SS1347	NO	NO	0.16
SS1353	NO	NO	0.52
SS1355	NO	NO	0.51
SS1356	NO	NO	0.33
SS1357	NO	NO	0.84
SS1361	NO	NO	0.18
SS1363	NO	NO	1.14
SS1368	NO	NO	0.23
SS1372	NO	NO	0.31
SS1379	NO	NO	0.55
SS1381	NO	NO	0.30
SS1383	NO	NO	0.77
SS1385	NO	NO	0.12
SS1386	NO	NO	2.50
SS1389	NO	NO	0.28
SS1392	NO	NO	0.27
SS1398	NO	NO	0.19

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS1399	NO	YES	0.84
SS1401	NO	NO	0.33
SS1404	YES	NO	1.31
SS1404A	YES	NO	3.57
SS1405	YES	NO	0.50
SS1406	YES	NO	3.09
SS1409	NO	NO	0.73
SS1410	NO	YES	0.34
SS1418	NO	NO	0.69
SS1423	NO	YES	0.15
SS1424	NO	YES	2.07
SS1425	NO	YES	0.58
SS1426	NO	YES	0.64
SS1427	NO	YES	0.11
SS1429	NO	YES	0.68
SS1430A	NO	YES	1.16
SS1433	NO	YES	0.22
SS1436	NO	YES	0.34
SS1442	NO	NO	0.13
SS1452	NO	NO	0.40
SS1453	NO	NO	0.32
SS1455	NO	NO	0.08
SS1458	NO	NO	0.24
SS1463	NO	YES	0.72
SS1464	NO	NO	1.97
SS1465	NO	NO	0.50
SS1466	NO	NO	0.44
SS1468	NO	YES	0.80
SS1469	NO	YES	0.36
SS1482	NO	NO	0.09
SS1487	NO	NO	0.45
SS1489	NO	NO	0.28
SS1490	NO	NO	0.75
SS1491	NO	NO	0.24
SS1493	NO	NO	4.06
SS1495	NO	NO	0.31
SS1496A	NO	NO	0.56
SS1501	NO	NO	0.78
SS1503	NO	NO	0.14
SS1506	NO	NO	0.28
SS1510	NO	NO	0.05

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS1511	NO	NO	1.41
SS1512	NO	NO	0.21
SS1516	NO	NO	1.01
SS1522	NO	NO	0.13
SS1526	NO	NO	0.23
SS1530	NO	NO	1.98
SS1530A	NO	NO	0.59
SS1532A	NO	NO	1.29
SS1533A	NO	NO	2.05
SS1534A	NO	NO	0.38
SS1535	NO	NO	0.69
SS1539A	NO	NO	0.21
SS1547A	YES	NO	1.11
SS1552	YES	NO	1.22
SS1553	YES	NO	0.41
SS1554	NO	NO	0.29
SS1561	YES	NO	4.14
SS1562	YES	NO	0.58
SS1566	NO	NO	0.46
SS1568	NO	NO	0.91
SS2018	YES	NO	0.13
SS2019	YES	NO	0.09
SS2020	YES	NO	0.02
SS2053	YES	NO	0.08
SS2055	YES	NO	0.17
SS2056	YES	NO	0.16
SS2059	YES	NO	0.22
SS2062	YES	YES	0.72
SS2064	YES	YES	0.31
SS2065	YES	YES	0.55
SS2066	YES	YES	0.32
SS2067	YES	YES	0.06
SS2070	YES	YES	0.42
SS2071	YES	YES	0.34
SS2076	YES	YES	0.07
SS2078	YES	YES	0.03
SS2080	YES	YES	0.40
SS2081	YES	YES	0.02
SS2083	YES	YES	0.14
SS2086	YES	YES	0.21
SS2088	YES	YES	0.75

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS2089A	YES	YES	0.16
SS2108A	YES	NO	0.10
SS2109	YES	NO	0.11
SS2125	YES	YES	2.02
SS2140	YES	YES	0.19
SS2141	YES	YES	0.67
SS2142	YES	YES	0.06
SS2148	YES	YES	0.10
SS2170	YES	NO	0.10
SS2174B	YES	YES	0.54
SS2176B	YES	YES	0.61
SS2177	YES	YES	0.72
SS2183	YES	YES	0.61
SS2186	YES	YES	0.64
SS2188	YES	NO	0.03
SS2194	YES	YES	0.57
SS2195	YES	YES	0.08
SS2206	YES	YES	0.25
SS2211	YES	YES	2.23
SS2214	YES	YES	0.13
SS2218	YES	YES	0.90
SS2219	YES	YES	0.32
SS2221	YES	YES	0.24
SS2229	YES	YES	0.11
SS2238	NO	NO	0.31
SS2243	YES	YES	0.79
SS2245	YES	YES	1.62
SS2246	YES	YES	4.63
SS2252	NO	NO	0.43
SS2259	NO	NO	0.12
SS2263	NO	YES	0.45
SS2264	NO	YES	0.77
SS2267	NO	YES	0.20
SS2270A	NO	NO	0.41
SS2276	YES	NO	0.83
SS2281	YES	NO	0.85
SS2282	YES	NO	0.50
SS2286	NO	NO	0.10
SS2287	NO	NO	0.34
SS2290	NO	YES	0.10
SS2294	NO	NO	0.70

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS2295	NO	NO	0.31
SS2298	NO	NO	0.04
SS2299	NO	NO	0.18
SS2301	NO	NO	0.09
SS2305	NO	NO	0.07
SS2308	NO	NO	0.07
SS2309	NO	NO	0.16
SS2311	NO	NO	0.09
SS2313	NO	NO	0.10
SS2316	NO	NO	0.13
SS2318	NO	NO	0.51
SS2319	NO	NO	0.18
SS2323	NO	NO	0.02
SS2324	NO	NO	0.07
SS2326	NO	NO	0.19
SS2327	YES	NO	0.37
SS2328	NO	NO	0.20
SS2329	NO	NO	0.22
SS2330	NO	NO	0.22
SS2331	NO	NO	0.30
SS2332	NO	NO	0.09
SS2333	NO	NO	0.11
SS2336	NO	NO	0.71
SS2340	NO	NO	0.07
SS2342	YES	NO	0.10
SS2345	YES	NO	0.11
SS2349	YES	NO	0.09
SS2350	YES	NO	0.02
SS2351	YES	NO	0.09
SS2352	YES	NO	0.06
SS2353	YES	NO	0.07
SS2354	YES	NO	0.04
SS2360	NO	NO	0.68
SS2361	NO	NO	0.05
SS2362	NO	NO	0.68
SS2363	NO	NO	0.09
SS2364	NO	NO	0.91
SS2365	NO	NO	0.03
SS2366	NO	NO	0.07
SS2368	YES	NO	0.17
SS2369	NO	NO	0.22

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS2373	YES	NO	0.08
SS2375	YES	NO	0.05
SS2382	YES	NO	0.18
SS2386	YES	NO	0.17
SS2388	YES	NO	0.11
SS2389	YES	NO	0.55
SS2390	YES	NO	0.07
SS2393	YES	NO	0.16
SS2398	YES	NO	0.20
SS2399	YES	NO	0.11
SS2400	YES	YES	0.07
SS2411	YES	NO	0.02
SS2420	YES	NO	0.11
SS2422	YES	NO	1.25
SS2426	YES	NO	0.08
SS2430	YES	NO	0.23
SS2435	YES	NO	0.21
SS2437	YES	NO	0.09
SS2441	NO	NO	0.19
SS2442	YES	NO	0.62
SS2443	YES	NO	0.03
SS2452	NO	NO	0.15
SS2455	YES	NO	0.09
SS2457	NO	NO	0.05
SS2458	YES	NO	0.11
SS2461	YES	NO	1.05
SS2464	YES	NO	0.11
SS2466	NO	NO	0.26
SS2467	NO	NO	0.21
SS2469	NO	NO	0.13
SS2471	NO	NO	0.13
SS2472	NO	NO	0.46
SS2474	NO	NO	0.18
SS2477	NO	NO	0.18
SS2479A	YES	NO	1.05
SS2491	YES	NO	1.81
SS2496	YES	NO	0.06
SS2497	YES	NO	2.28
SS2502	YES	NO	0.18
SS2505	YES	NO	0.27
SS2508A	YES	NO	0.06

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS2510	YES	NO	0.37
SS2512	YES	NO	1.11
SS2514	YES	NO	0.88
SS2515	YES	NO	0.62
SS2520	YES	NO	0.36
SS2521	YES	NO	0.06
SS2522	YES	NO	0.08
SS2527	NO	NO	0.67
SS2530A	YES	NO	0.09
SS2531	YES	NO	0.44
SS2537	NO	NO	3.59
SS2539	NO	NO	0.20
SS2540	NO	NO	1.36
SS2552	NO	NO	2.79
SS2554	NO	NO	0.04
SS2555	NO	NO	0.08
SS2557	YES	NO	0.17
SS2560	NO	NO	0.11
SS2569	YES	NO	0.33
SS2570	YES	NO	0.07
SS2571	YES	NO	0.39
SS2572	YES	NO	0.35
SS2573	YES	NO	0.45
SS2574	YES	NO	0.15
SS2586	YES	NO	0.22
SS2587	YES	NO	0.07
SS2589	YES	NO	0.14
SS2590	YES	NO	0.46
SS2591	YES	NO	0.24
SS2595	YES	NO	0.43
SS2596	YES	NO	0.19
SS2597	YES	NO	0.09
SS2599	YES	NO	0.05
SS2601	YES	NO	0.08
SS2602	YES	NO	0.07
SS2603	YES	NO	0.28
SS2605	YES	NO	0.34
SS2606	YES	NO	0.03
SS2607	YES	NO	0.07
SS2609	YES	NO	0.08
SS2610	YES	NO	0.09

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS2612	YES	NO	0.06
SS2613	YES	NO	0.04
SS2617	YES	NO	0.03
SS2618	YES	NO	0.13
SS2619	YES	NO	0.07
SS2621	YES	NO	0.05
SS2622	YES	NO	0.28
SS2623	YES	NO	0.15
SS2624	YES	NO	0.41
SS2625	YES	NO	0.04
SS2626	YES	NO	0.03
SS2633	YES	NO	0.11
SS2634	YES	NO	0.06
SS2639	YES	NO	0.41
SS2641A	YES	NO	1.95
SS2642	YES	NO	0.58
SS2644	YES	NO	1.41
SS2648	YES	NO	0.49
SS2652	YES	NO	0.30
SS2656	YES	NO	0.03
SS2658	YES	NO	0.05
SS2661	YES	NO	0.05
SS2664	YES	NO	0.14
SS2667	YES	NO	0.19
SS2668	YES	NO	0.25
SS2669	YES	NO	0.08
SS2670	YES	NO	0.06
SS2671	YES	NO	0.38
SS2672	YES	NO	0.03
SS2675	YES	NO	0.16
SS2677	YES	NO	0.08
SS2678	YES	NO	0.20
SS2679	YES	NO	0.09
SS2680	YES	NO	0.12
SS2682	YES	NO	0.06
SS2683	YES	NO	0.16
SS2684	YES	NO	0.07
SS2687	YES	NO	0.15
SS2689	YES	NO	0.07
SS2690	YES	NO	0.23
SS2691	YES	NO	0.15

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS2694	YES	NO	0.25
SS2695	YES	NO	0.28
SS2699	YES	NO	0.19
SS2700	YES	NO	0.24
SS2703	YES	NO	0.10
SS2709	YES	NO	0.17
SS2710	YES	NO	0.27
SS2711	YES	NO	0.04
SS2712	YES	NO	0.03
SS2713	YES	NO	0.21
SS2717	YES	YES	0.39
SS2730	YES	NO	0.86
SS2736	YES	YES	0.07
SS2738	YES	NO	0.08
SS2745	YES	YES	1.27
SS2746	YES	YES	2.41
SS2750	YES	YES	0.14
SS2752	YES	NO	1.13
SS2754	YES	NO	0.13
SS2764	NO	NO	0.90
SS2767	YES	NO	1.23
SS2769	NO	NO	1.66
SS2772	NO	NO	0.45
SS2778	NO	NO	0.67
SS2782	YES	NO	0.27
SS2788	YES	YES	0.73
SS2790	YES	NO	0.62
SS2791	YES	NO	0.85
SS2794	NO	NO	0.05
SS2795	NO	NO	1.77
SS2797	YES	YES	1.33
SS2801	NO	YES	0.09
SS2803	YES	YES	1.80
SS2806	YES	YES	0.27
SS2807	YES	NO	0.07
SS2824	YES	NO	0.07
SS3008	YES	NO	0.15
SS3015	YES	NO	0.58
SS3018	YES	YES	0.09
SS3019	YES	NO	0.09
SS3020	YES	NO	0.24

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS3029	YES	NO	0.61
SS3036	YES	YES	0.16
SS3042	YES	NO	0.18
SS3043	YES	NO	0.55
SS3045	YES	NO	0.25
SS3047	YES	NO	0.22
SS3048	YES	NO	0.18
SS3049	YES	NO	0.69
SS3052	YES	NO	0.08
SS3059	YES	NO	0.22
SS3065	YES	NO	0.13
SS3070	YES	NO	0.09
SS3071	YES	NO	3.24
SS3072	YES	NO	0.25
SS3074	YES	NO	0.17
SS3075	YES	NO	0.81
SS3076	YES	NO	0.21
SS3078	YES	NO	0.25
SS3080	YES	NO	0.67
SS3081A	YES	NO	0.23
SS3083	YES	NO	3.01
SS3083A	YES	NO	0.48
SS3094	YES	NO	0.04
SS3103	YES	NO	0.21
SS3105	YES	NO	0.08
SS3115	YES	YES	3.50
SS3116	YES	NO	0.29
SS3123	YES	NO	0.44
SS3154	YES	NO	0.05
SS3169	YES	YES	0.07
SS3171	YES	NO	0.02
SS3174	YES	NO	0.08
SS3175	YES	NO	0.07
SS3176	YES	YES	0.08
SS3178	YES	YES	1.29
SS3179	YES	YES	0.06
SS3183	YES	NO	0.18
SS3185	YES	YES	0.55
SS3187	YES	NO	0.21
SS3188	YES	NO	0.64
SS3189	YES	NO	0.22

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS3214	YES	YES	2.52
SS3228	YES	NO	0.45
SS3229	YES	YES	0.06
SS3231	YES	NO	0.17
SS3255	YES	NO	0.11
SS3256	YES	YES	0.10
SS3257	YES	YES	0.23
SS3262	YES	NO	0.42
SS3264	YES	NO	1.86
SS3273	YES	NO	0.34
SS3276	YES	NO	0.27
SS3279	YES	NO	0.25
SS3280	YES	NO	0.16
SS3281	YES	NO	0.06
SS3285	YES	NO	1.68
SS3286	YES	NO	0.71
SS3290	YES	NO	1.10
SS3292	YES	NO	0.32
SS3293	YES	NO	0.16
SS3294	YES	NO	0.74
SS3295	YES	NO	0.57
SS3297	YES	NO	0.26
SS3299	YES	NO	0.04
SS3305	YES	NO	0.19
SS3306	YES	NO	0.07
SS3330	YES	NO	0.11
SS3331	YES	NO	0.03
SS3333	YES	NO	0.06
SS3334	YES	NO	0.05
SS3335	YES	NO	0.19
SS3339	NO	NO	0.17
SS3346	NO	NO	2.03
SS3355	NO	NO	0.19
SS3356	NO	NO	0.12
SS3366A	NO	NO	3.33
SS3367	NO	NO	0.43
SS3370A	NO	NO	2.89
SS3371	NO	NO	0.14
SS3374	NO	NO	0.53
SS3378	NO	NO	0.34
SS3379	NO	NO	0.07

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS3381	NO	NO	0.51
SS3382	NO	NO	0.59
SS3383	NO	NO	1.28
SS3384	NO	NO	0.82
SS3396	NO	NO	0.78
SS3402	NO	NO	0.08
SS3403	NO	NO	0.14
SS3409	NO	NO	0.35
SS3414	NO	NO	0.02
SS3415	NO	NO	0.08
SS3416	NO	NO	0.10
SS3420	NO	NO	0.44
SS3421	NO	NO	0.09
SS3422	NO	NO	0.11
SS3424	NO	NO	0.07
SS3425	NO	NO	0.44
SS3435	NO	NO	0.16
SS3438	NO	NO	0.48
SS3439	NO	NO	0.28
SS3443	NO	NO	0.10
SS3444	NO	NO	0.51
SS3446	NO	NO	0.20
SS3447	NO	NO	0.43
SS3448	NO	NO	0.42
SS3449	NO	NO	0.12
SS3450	NO	NO	0.16
SS3451	NO	NO	0.25
SS3453	NO	NO	0.03
SS3455	NO	NO	0.06
SS3456	NO	NO	0.29
SS3457	NO	NO	0.23
SS3462	NO	NO	0.62
SS3463	NO	NO	0.12
SS3464	NO	NO	0.20
SS3467	NO	NO	0.09
SS3468	NO	NO	0.07
SS3469	NO	NO	0.37
SS3472	NO	NO	0.74
SS3474	NO	NO	0.14
SS3475	NO	NO	0.47
SS3476	NO	NO	0.15

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS3479	NO	NO	0.03
SS3485	NO	NO	0.31
SS3495	NO	NO	0.08
SS3496	NO	NO	0.11
SS3497	NO	NO	0.83
SS3498	NO	NO	0.05
SS3503	NO	NO	0.56
SS3504	NO	NO	0.43
SS3505	NO	NO	0.08
SS3506	NO	NO	0.10
SS3507	NO	NO	0.11
SS3508	NO	NO	0.03
SS3510	NO	NO	0.56
SS3511	NO	NO	0.14
SS3512	NO	NO	0.11
SS3514	NO	NO	0.33
SS3515	NO	NO	0.09
SS3516	NO	NO	0.35
SS3517	NO	NO	1.54
SS3522	NO	NO	0.14
SS3523	NO	NO	0.15
SS3529	NO	NO	0.12
SS4008	YES	NO	0.13
SS4019	YES	NO	0.02
SS4020	YES	NO	0.08
SS4021	YES	NO	0.11
SS4036	YES	NO	0.07
SS4038	YES	NO	0.23
SS4043	YES	NO	0.06
SS4045	YES	NO	0.44
SS4047	YES	NO	1.30
SS4050	YES	NO	0.31
SS4064	YES	NO	0.83
SS4066	YES	NO	0.20
SS4069	YES	NO	0.03
SS4070	YES	NO	0.13
SS4072	YES	NO	0.19
SS4074	YES	NO	1.13
SS4075	YES	NO	0.13
SS4077	YES	NO	0.18
SS4080	YES	NO	0.05

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS4082	YES	NO	0.11
SS4083	YES	NO	0.28
SS4086	YES	NO	0.14
SS4089	YES	NO	0.09
SS4093	YES	NO	0.12
SS4095	YES	NO	1.60
SS4096	YES	NO	0.96
SS4097	YES	NO	0.27
SS4099	YES	NO	0.23
SS4100	YES	NO	1.04
SS4101	YES	NO	0.85
SS4102	YES	NO	0.20
SS4103	YES	NO	0.30
SS4105	YES	NO	0.13
SS4106	YES	NO	0.33
SS4107	YES	NO	0.11
SS4108	YES	NO	0.10
SS4111	YES	NO	0.05
SS4112	YES	NO	0.23
SS4114	YES	NO	0.27
SS4115A	YES	NO	0.65
SS4116	YES	NO	0.48
SS4117	YES	NO	0.16
SS4118	YES	NO	0.05
SS4119	YES	NO	0.07
SS4120	YES	NO	0.07
SS4122	YES	NO	0.06
SS4127	YES	NO	0.08
SS4136	YES	NO	0.21
SS4137	YES	NO	0.12
SS4139	YES	NO	0.04
SS4141	YES	NO	0.05
SS4142	YES	NO	0.70
SS4147	YES	NO	0.12
SS4148	YES	NO	0.26
SS4149	YES	NO	0.58
SS4150	YES	NO	4.45
SS4151	YES	NO	0.42
SS4155	YES	NO	0.13
SS4156	YES	NO	0.91
SS4159	YES	NO	0.21

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS4160	YES	NO	0.09
SS4161	YES	NO	1.39
SS4163	YES	NO	0.09
SS4164	YES	NO	0.07
SS4165	YES	NO	0.03
SS4166	YES	NO	0.19
SS4167	YES	NO	0.16
SS4168	YES	NO	0.12
SS4169	YES	NO	0.21
SS4170	YES	NO	0.18
SS4171	YES	NO	0.78
SS4172	YES	NO	1.13
SS4173	YES	NO	0.21
SS4178	YES	NO	0.58
SS4179	YES	NO	0.18
SS4181	YES	NO	0.07
SS4182	YES	NO	0.28
SS4183	YES	NO	0.07
SS4184	YES	NO	0.35
SS4185	YES	NO	0.07
SS4186	YES	NO	0.11
SS4187	YES	NO	0.23
SS4188	YES	NO	0.48
SS4191	YES	NO	0.10
SS4192	YES	NO	0.20
SS4193	YES	NO	0.12
SS4196	YES	NO	0.16
SS4197	YES	NO	0.32
SS4198	YES	NO	0.52
SS4199	YES	NO	0.27
SS4200	YES	NO	0.04
SS4202	YES	NO	0.07
SS4203	YES	NO	0.03
SS4204	YES	NO	0.12
SS4205	YES	NO	0.08
SS4206A	YES	NO	0.03
SS4207	YES	NO	0.12
SS4208	YES	NO	0.14
SS4210	YES	NO	0.30
SS4212	YES	NO	0.08
SS4213	YES	NO	0.17

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS4214	YES	NO	0.27
SS4222	YES	NO	0.65
SS4223	YES	NO	0.39
SS4225	YES	YES	0.05
SS4228	YES	NO	0.13
SS4230	YES	NO	0.24
SS4244	YES	NO	0.23
SS4247	YES	YES	0.24
SS4248	YES	YES	0.22
SS4249	YES	YES	0.34
SS4250	YES	NO	0.12
SS4251	YES	YES	0.03
SS4257	YES	NO	0.03
SS4260	YES	NO	0.26
SS4262	YES	NO	0.11
SS4269	YES	YES	0.05
SS4270	YES	YES	0.16
SS4272	YES	YES	0.41
SS4273	YES	NO	0.04
SS4274	YES	YES	0.04
SS4275	YES	YES	0.23
SS4276	YES	YES	1.00
SS4283	YES	NO	0.09
SS4284	YES	NO	0.12
SS4288	YES	NO	0.06
SS4289	YES	NO	0.11
SS4299	YES	NO	0.21
SS4300	YES	NO	0.09
SS4303	YES	NO	1.13
SS4304	YES	NO	0.14
SS4305	YES	NO	0.10
SS4306	YES	NO	0.37
SS4307	YES	NO	0.18
SS4318	YES	NO	0.71
SS4322	YES	YES	0.27
SS4324	YES	NO	0.34
SS4325	YES	NO	0.80
SS4331	YES	NO	0.04
SS4332	YES	YES	0.04
SS4334	YES	NO	0.10
SS4336	YES	YES	2.16

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS4337	YES	YES	0.23
SS4338	YES	YES	0.07
SS4339	YES	YES	0.14
SS4340	YES	YES	0.06
SS4341	YES	YES	0.08
SS4342	YES	YES	0.59
SS4423	YES	NO	0.03
SS4430	NO	NO	1.64
SS4431	NO	NO	1.82
SS4434	NO	NO	0.22
SS4435	NO	NO	0.28
SS4438	NO	NO	0.26
SS4441	YES	NO	1.12
SS4451	YES	YES	1.10
SS4452	YES	NO	0.04
SS4453	YES	NO	0.17
SS4454	YES	YES	0.14
SS4455	YES	YES	0.06
SS4456	YES	YES	0.22
SS4457	YES	YES	0.21
SS4458	YES	YES	0.17
SS4459	YES	YES	0.69
SS4460	YES	YES	1.32
SS4461	YES	YES	0.09
SS4463	YES	YES	0.65
SS4464	YES	YES	0.53
SS4465	YES	YES	0.12
SS4466	YES	YES	0.12
SS4468	YES	NO	0.05
SS4472	YES	NO	0.67
SS4473	YES	NO	0.34
SS4474	YES	NO	0.54
SS4475	YES	NO	0.05
SS4476	YES	NO	0.18
SS4478	YES	NO	0.11
SS4479	YES	NO	0.46
SS4480	YES	NO	0.68
SS4482	YES	NO	0.11
SS4483	YES	NO	0.05
SS4485	YES	NO	0.89
SS4486	YES	NO	0.21

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS4489	YES	NO	0.04
SS4492	YES	NO	0.49
SS4505	YES	NO	0.12
SS4506	YES	NO	0.12
SS4507	YES	NO	0.21
SS4508	YES	NO	0.17
SS4509	YES	NO	0.12
SS4510	YES	NO	0.17
SS4513A	YES	NO	0.74
SS4516A	YES	NO	0.08
SS4520	YES	NO	0.24
SS4522	YES	NO	0.12
SS4523	YES	NO	0.22
SS4524	YES	NO	0.76
SS4525	YES	NO	0.16
SS4526	YES	NO	0.48
SS4528	YES	NO	0.68
SS4529	YES	NO	0.55
SS4530	YES	NO	0.72
SS4534	YES	NO	0.33
SS4535	YES	NO	0.22
SS4540	YES	NO	0.90
SS4541	YES	NO	0.36
SS4542	YES	NO	1.27
SS4543	YES	NO	0.30
SS4544	YES	NO	0.30
SS4545	YES	NO	0.33
SS4546	YES	NO	0.33
SS4547	YES	NO	3.71
SS4548	YES	NO	0.13
SS4550	YES	YES	0.11
SS4552	YES	NO	0.09
SS4553	YES	NO	0.39
SS4555	YES	NO	0.42
SS4556	YES	NO	0.28
SS4560	YES	YES	0.28
SS4561	YES	YES	0.73
SS4563	YES	NO	0.23
SS4567	YES	NO	0.14
SS4568	YES	NO	0.41
SS4574	YES	NO	0.14

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS4576	YES	NO	0.46
SS4581	YES	NO	0.58
SS4583	YES	NO	0.05
SS4584	YES	NO	0.03
SS4585	YES	NO	0.35
SS4586	YES	NO	0.39
SS4587	YES	NO	0.13
SS5004	YES	YES	4.83
SS5005	YES	YES	0.37
SS5006	YES	YES	0.18
SS5007	YES	YES	1.97
SS5008	YES	YES	0.60
SS5019	YES	NO	0.53
SS5021	YES	YES	2.85
SS5023	YES	YES	0.88
SS5024	YES	YES	7.54
SS5025	YES	NO	0.64
SS5026	YES	NO	0.36
SS5027	YES	NO	0.28
SS5029	YES	NO	0.40
SS5032	YES	YES	0.06
SS5033	YES	YES	0.08
SS5036	YES	YES	1.93
SS5037	YES	YES	0.08
SS5039	YES	YES	0.25
SS5052	YES	NO	0.06
SS5058	YES	YES	4.04
SS5073	NO	NO	0.14
SS5075	NO	YES	0.14
SS5078	YES	YES	0.71
SS5083	YES	NO	0.05
SS5090	NO	YES	0.20
SS5095	NO	YES	0.16
SS5098	NO	YES	0.58
SS5100	NO	YES	0.09
SS5101	NO	YES	0.47
SS5102	NO	YES	1.86
SS5103	NO	YES	0.33
SS5106	NO	YES	0.15
SS5107	NO	YES	0.20
SS5113	NO	YES	0.19

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS5135	NO	NO	1.01
SS5139	YES	NO	1.95
SS5140	YES	NO	0.03
SS5144	YES	NO	0.28
SS5148	YES	NO	0.15
SS5149	YES	YES	1.02
SS5150	YES	YES	1.86
SS5155	YES	YES	0.10
SS5159	NO	YES	0.02
SS5162	NO	YES	3.70
SS5169	NO	NO	0.05
SS5170	NO	YES	0.09
SS5177	NO	NO	0.90
SS5178	NO	NO	0.37
SS5189	YES	NO	0.11
SS5190	YES	NO	1.71
SS5197	YES	NO	0.15
SS5204	YES	NO	0.08
SS5207	YES	NO	0.26
SS5212	NO	NO	1.35
SS5215	YES	NO	0.35
SS5218	YES	NO	0.09
SS5220	YES	NO	0.55
SS5221	YES	NO	1.07
SS5224	NO	NO	0.24
SS5230	NO	NO	0.50
SS5235	YES	NO	0.55
SS5239	YES	NO	0.19
SS5240	YES	NO	0.13
SS5244	NO	NO	0.34
SS5250	NO	NO	2.08
SS5251	NO	NO	1.08
SS5255	NO	NO	1.11
SS5256	NO	NO	0.27
SS5258	NO	NO	0.84
SS5260	YES	NO	0.62
SS5262	NO	NO	0.58
SS5264	NO	NO	0.73
SS5266	NO	NO	0.83
SS5267	NO	NO	1.04
SS5268	NO	NO	0.32

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS5270	NO	NO	0.49
SS5271	NO	NO	0.06
SS5272	NO	NO	0.35
SS5273	NO	NO	0.18
SS5275	YES	NO	3.21
SS5277	YES	NO	0.13
SS5278	YES	NO	1.75
SS5282	NO	NO	0.41
SS5283	NO	NO	0.44
SS5285	NO	NO	0.04
SS5287	NO	NO	0.57
SS5290	NO	NO	0.04
SS5291	NO	NO	0.06
SS5292	NO	NO	0.11
SS5296	NO	NO	0.15
SS5299	NO	NO	0.19
SS5300	NO	NO	0.15
SS5302	NO	NO	1.74
SS5307	NO	NO	0.27
SS5320	YES	NO	0.34
SS5321	YES	NO	0.17
SS5322	YES	NO	0.39
SS5323	YES	NO	0.12
SS5332	YES	NO	0.31
SS5333	YES	NO	0.08
SS5334	YES	NO	0.05
SS5335	YES	NO	0.16
SS5338	NO	NO	0.39
SS5339	NO	NO	0.23
SS5342	NO	NO	0.28
SS5346	NO	NO	0.25
SS5350	NO	NO	1.00
SS5352	NO	NO	0.08
SS5353	YES	NO	0.90
SS5354	YES	NO	2.89
SS5355	YES	NO	0.23
SS5356	NO	NO	0.03
SS5360	NO	NO	0.10
SS5365	NO	NO	0.15
SS5367	NO	NO	0.55
SS5368	NO	NO	0.91

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS5370	YES	NO	0.53
SS5372	NO	NO	0.24
SS5373	NO	NO	0.13
SS5374	NO	NO	0.69
SS5375	NO	NO	0.60
SS5376	NO	NO	0.23
SS5377	NO	NO	0.09
SS5384	YES	NO	0.81
SS5387	YES	NO	0.15
SS5390	NO	YES	0.14
SS5396	NO	YES	0.14
SS5398	NO	NO	0.82
SS5402	NO	NO	3.42
SS5407	NO	NO	0.06
SS5408	NO	NO	0.41
SS5409	NO	NO	0.06
SS5420	YES	NO	0.44
SS6023	NO	NO	2.14
SS6031	NO	NO	0.67
SS6035	YES	YES	0.07
SS6036	YES	YES	0.48
SS6037	YES	NO	1.79
SS6038	YES	YES	0.98
SS6044A	YES	YES	1.26
SS6049A	NO	YES	0.14
SS6050	YES	YES	0.73
SS6051	NO	YES	0.27
SS6052	NO	YES	0.24
SS6054	NO	YES	0.63
SS6060	NO	YES	0.23
SS6061	NO	YES	0.06
SS6064	NO	NO	0.15
SS6071	NO	YES	0.53
SS6075	NO	YES	0.13
SS6076	NO	YES	0.31
SS6083	YES	YES	0.10
SS6086A	YES	NO	0.17
SS6089A	YES	NO	0.29
SS6096	YES	YES	1.08
SS6100	YES	YES	0.26
SS6102	YES	YES	0.26

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS6103	YES	YES	0.22
SS6104	YES	NO	0.44
SS6105	YES	NO	0.18
SS6106	NO	YES	1.22
SS6111	YES	NO	1.00
SS6112	YES	YES	0.28
SS6116	YES	NO	0.24
SS6125	YES	NO	0.06
SS6128	YES	NO	0.13
SS6131	YES	NO	0.12
SS6132	NO	NO	0.39
SS6135	NO	YES	0.80
SS6138	NO	YES	0.09
SS6143	YES	NO	0.05
SS6144	YES	NO	0.18
SS6146	NO	NO	0.11
SS6158	YES	NO	0.13
SS6161	YES	NO	0.07
SS6162	YES	NO	0.06
SS6163	YES	NO	0.20
SS6166	YES	NO	0.12
SS6167	YES	NO	0.12
SS6172	YES	NO	0.12
SS6174	NO	YES	0.40
SS6178	NO	YES	1.02
SS6180	NO	YES	0.10
SS6181	NO	YES	0.04
SS6183	YES	NO	0.09
SS6185	YES	NO	0.56
SS6188	YES	NO	0.10
SS6189	YES	NO	0.38
SS7000	YES	YES	0.82

**Table Appx - 41: Closed Routes Not Subject to Reclamation Due to Authorized Use**

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS1010	NO	NO	1.01
SS1016	NO	NO	0.90
SS1019	NO	NO	0.07
SS1021	NO	NO	0.23
SS1023	NO	NO	0.29

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS1024	NO	NO	0.85
SS1068	NO	NO	1.62
SS1069	NO	NO	0.17
SS1077	NO	NO	1.53
SS1101	NO	NO	0.09
SS1105	NO	NO	0.63
SS1116	NO	NO	1.54
SS1177	NO	NO	1.12
SS1181	NO	NO	0.87
SS1182	NO	NO	2.17
SS1183	NO	NO	1.47
SS1189	YES	NO	0.89
SS1199	NO	NO	0.10
SS1225	YES	NO	0.52
SS1227	YES	NO	0.53
SS1233	NO	NO	0.67
SS1236	YES	NO	1.69
SS1241	NO	NO	0.05
SS1244	NO	NO	0.63
SS1245	NO	NO	0.40
SS1263	YES	NO	0.45
SS1266	YES	NO	1.55
SS1283	NO	NO	0.71
SS1285	NO	NO	1.22
SS1288	NO	NO	1.04
SS1289	NO	NO	0.54
SS1298	NO	NO	1.06
SS1308	NO	NO	0.64
SS1311	NO	NO	0.07
SS1312	NO	NO	0.21
SS1376	NO	NO	1.56
SS1393	NO	NO	0.92
SS1395	NO	NO	0.31
SS1396	NO	NO	0.42
SS1419	NO	NO	1.33
SS1450	NO	NO	1.51
SS1457	NO	NO	0.72
SS1462	NO	NO	0.16
SS1467	NO	YES	4.02
SS1476	NO	NO	0.43
SS1483	NO	NO	0.33

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS1484	NO	NO	0.16
SS1497	NO	NO	2.62
SS1536	NO	NO	3.88
SS1545	NO	NO	1.74
SS2145	YES	YES	2.94
SS2160	YES	NO	0.09
SS2179	YES	YES	0.13
SS2181	YES	YES	1.24
SS2182	YES	YES	2.73
SS2184	YES	YES	0.37
SS2228	YES	YES	0.24
SS2230	YES	YES	0.38
SS2232	YES	YES	1.31
SS2237	NO	NO	0.05
SS2251	YES	NO	2.45
SS2273	NO	YES	0.33
SS2277	YES	NO	0.71
SS2401	YES	NO	0.47
SS2405	YES	NO	0.46
SS2421	YES	NO	0.37
SS2445	YES	NO	0.67
SS2465	NO	NO	0.24
SS2476	YES	NO	0.41
SS2481	YES	NO	1.16
SS2495	YES	NO	0.10
SS2498	NO	NO	0.97
SS2523	YES	NO	0.19
SS2525	NO	NO	0.37
SS2526	NO	NO	0.99
SS2529	NO	NO	0.17
SS2550	NO	NO	1.62
SS2562	NO	NO	0.15
SS2721	YES	YES	0.08
SS2761	NO	NO	0.07
SS2777	NO	NO	0.08
SS2781	NO	NO	0.20
SS2784	YES	YES	2.66
SS2785	NO	YES	0.23
SS2786	YES	YES	1.46
SS2798	NO	YES	1.02
SS2810	YES	YES	1.14

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS3013	YES	NO	0.55
SS3054	YES	YES	0.87
SS3061A	YES	NO	2.11
SS3064	YES	NO	0.17
SS3112	YES	YES	0.23
SS3153	YES	YES	0.47
SS3184	YES	NO	0.52
SS3201	NO	NO	0.79
SS3236	NO	NO	0.13
SS3242	YES	NO	0.20
SS3245	YES	YES	0.81
SS3252	NO	NO	0.18
SS3284	YES	NO	0.45
SS3317	YES	NO	0.66
SS3318	YES	YES	0.17
SS3320	YES	YES	0.69
SS3332	YES	NO	1.56
SS3341	NO	NO	0.48
SS3343	NO	NO	1.54
SS3345	YES	NO	5.47
SS3350	NO	NO	2.48
SS3352	NO	NO	1.64
SS3357	NO	NO	1.35
SS3359	YES	YES	0.14
SS3361	YES	NO	0.48
SS3377	NO	NO	0.09
SS3394	NO	NO	0.80
SS3399	NO	NO	0.35
SS3427	NO	NO	0.36
SS3434	NO	NO	1.71
SS3437	NO	NO	0.73
SS3482	NO	NO	1.85
SS3493	NO	NO	0.15
SS3527	NO	NO	0.48
SS3528	NO	NO	0.07
SS3530	NO	NO	0.71
SS3531	YES	NO	0.31
SS4125	YES	NO	2.16
SS4126	YES	NO	0.23
SS4130	YES	NO	0.11
SS4133	YES	NO	0.13

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS4134	YES	NO	0.22
SS4215	YES	NO	0.14
SS4240	YES	YES	0.06
SS4429	NO	NO	1.01
SS4433	NO	NO	0.03
SS4436	NO	NO	1.33
SS4437	NO	NO	0.45
SS4439	NO	NO	0.04
SS4445	YES	NO	0.14
SS4467	YES	NO	0.09
SS4490	YES	NO	0.12
SS4497	YES	NO	0.33
SS4513	YES	NO	0.10
SS4554	YES	NO	3.04
SS4588A	YES	NO	0.16
SS4590	YES	NO	0.78
SS5015	YES	NO	0.36
SS5017	YES	NO	0.14
SS5022	YES	YES	2.84
SS5030	YES	NO	0.11
SS5038	YES	YES	1.13
SS5060	YES	YES	0.94
SS5070	NO	NO	1.02
SS5071	YES	YES	8.74
SS5072	YES	YES	1.26
SS5077	YES	NO	0.43
SS5079	YES	NO	0.47
SS5080	YES	YES	2.87
SS5081	YES	NO	1.56
SS5091A	NO	NO	0.50
SS5092	NO	YES	0.73
SS5099	NO	YES	3.94
SS5104	NO	YES	0.29
SS5111	NO	YES	0.68
SS5116	NO	YES	0.06
SS5118	NO	YES	0.03
SS5119	NO	YES	0.34
SS5120	NO	YES	0.11
SS5122	NO	YES	0.29
SS5125	YES	YES	2.67
SS5133	NO	NO	0.04

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS5134	NO	NO	0.14
SS5152	YES	NO	0.49
SS5156	YES	YES	0.17
SS5160	NO	YES	1.59
SS5163	NO	YES	0.67
SS5164	NO	YES	0.61
SS5174	NO	NO	0.25
SS5175	NO	NO	0.20
SS5188	YES	NO	1.61
SS5193	YES	NO	0.25
SS5205	YES	NO	0.05
SS5210	YES	NO	3.20
SS5213	YES	NO	5.80
SS5214	YES	NO	0.73
SS5217	YES	NO	0.25
SS5219	YES	NO	0.12
SS5229	NO	NO	0.55
SS5233	YES	NO	0.05
SS5237	YES	NO	0.24
SS5249	NO	NO	1.27
SS5269	NO	NO	0.04
SS5274	YES	NO	1.06
SS5319	YES	NO	0.03
SS5325	YES	NO	1.91
SS5326	YES	NO	0.50
SS5328	YES	NO	3.58
SS5329	YES	NO	2.24
SS5330	YES	NO	0.70
SS5336	YES	NO	0.50
SS5337	NO	NO	2.19
SS5341	NO	NO	0.06
SS5359	NO	NO	0.15
SS5364	NO	NO	0.32
SS5366	NO	NO	0.57
SS5382	YES	NO	2.11
SS5392	NO	NO	0.19
SS6008	NO	NO	0.52
SS6009	NO	NO	1.38
SS6010	NO	NO	0.18
SS6011	NO	NO	0.64
SS6012	NO	NO	1.27

Route	Visuals (Class I or II)	LWC or Natural Area	Miles
SS6017	NO	NO	0.46
SS6022	NO	NO	1.59
SS6029	NO	NO	0.10
SS6039	YES	YES	0.48
SS6041	NO	NO	0.09
SS6042	NO	YES	0.10
SS6055	NO	NO	2.54
SS6057	YES	YES	1.14
SS6058	YES	YES	0.64
SS6063A	NO	NO	0.28
SS6065	NO	YES	0.24
SS6066	NO	YES	0.13
SS6073	NO	YES	0.73
SS6077A	NO	NO	0.69
SS6084	YES	NO	0.10
SS6092	NO	NO	0.07
SS6095	YES	YES	1.40
SS6097	NO	YES	0.35
SS6108	YES	NO	0.46
SS6113	YES	YES	1.61
SS6130	YES	NO	0.20
SS6176	NO	YES	0.24
SS6192	YES	NO	0.36

## APPENDIX I GLOSSARY

**Access:** The opportunity to approach, enter, and/or cross public lands. (BLM 2016b)

**Adaptive management:** A system of management practices based on clearly identified outcomes and monitoring to determine whether management actions are meeting desired outcomes; and, if not, facilitating management changes that will best ensure that outcomes are met or re-evaluated. Adaptive management recognizes that knowledge about natural resource systems is sometimes uncertain. (43 CFR 46.30 Definitions)

**Administrative use:** Travel-related access for official use by BLM employees and agency representatives during the course of their duties using whatever means is necessary. Access is for resource management and administrative purposes and may include fire suppression, cadastral surveys, permit compliance, law enforcement, and resource monitoring or other access needed to administer BLM-managed lands or uses. (BLM 2016b)

**All-terrain vehicle (ATV):** A motorized, wheeled vehicle other than a snowmobile, which is defined as having a wheelbase and chassis of 50 inches in width or less, handlebars for steering, generally a dry weight of 800 pounds or less, three or more low-pressure tires, and a seat designed to be straddled by the operator. (BLM 2012a)

**Alternatives:** Other options to the proposed action by which the BLM can meet its purpose and need. The BLM is directed by the NEPA to “study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources....” (BLM 2008a)

**Asset:** A non-building facility and transportation construction, which include roads, primitive roads, and trails that are included in FAMS. The BLM maintains assets through the annual and deferred maintenance programs. (BLM 2016b)

**Authorized use:** Travel-related access for users authorized by the BLM or otherwise officially approved. Access may include motorized access for permittees, lessees or other authorized users, along with approved access across BLM-administered public lands for other state and federal agencies. (BLM 2016b)

**Categorical Exclusion:** A category of actions that the agency has determined, in its agency NEPA procedures, normally do not have a significant effect on the human environment (40 CFR 1508.1). A categorical exclusion is a form of NEPA compliance, without the analysis that occurs in an EA or an EIS. It is not an exemption from the NEPA (BLM 2008a).

**Class B road:** Road that is constructed and maintained regularly by the County. As stated in Utah Code, Class B roads:

- (a) are situated outside of incorporated municipalities and not designated as state highways;
- (b) have been designated as county roads; or
- (c) are located on property under the control of a federal agency and constructed or maintained by the county under agreement with the appropriate federal agency. (Utah Code 72-3-103)

**Class D route:** As stated in Utah Code, “any road, way, or other land surface route that has been or is established by use or constructed and has been maintained to provide for usage by the public for vehicles with four or more wheels that is not a class A, class B, or class C road” (Utah Code 72-3-105).

**Code of Federal Regulations (CFR):** The codification of the general and permanent rules published in the Federal Register by the departments and agencies of the Federal Government. It is divided into 50 titles that represent broad areas subject to Federal regulation. (<https://www.govinfo.gov/help/cfr>)

**Cooperating agency:** Assists the lead Federal agency in developing an environmental assessment or environmental impact statement. These can be any agencies with jurisdiction by law or special expertise for proposals covered by NEPA (40 CFR 1501.6). Any tribal, Federal, State, or local government jurisdiction with such qualifications may become a cooperating agency by agreement with the lead agency. (BLM 2008a)

**Critical habitat:** An area occupied by a Threatened or Endangered species on which are found physical and biological features that are (1) essential to the conservation of the species, and (2) may require special management considerations or protection. (16 USC 1532(5))

**Cultural resource:** A definite location of human activity, occupation, or use identifiable through field inventory (survey), historical documentation, or oral evidence. The term includes archaeological, historic, or architectural sites, structures, or places with important public and scientific uses, and may include definite locations (sites or places) of traditional cultural or religious importance to specified social and/or cultural groups. Cultural resources are concrete, material places and things that are located, classified, ranked, and managed through the system of identifying, protecting, and utilizing for public benefit. They may be but are not necessarily eligible for the National Register of Historic Places (NRHP). (BLM 2004a)

**Cultural resource inventory classes:**

- Class I - existing information inventory: a study of published and unpublished documents, records, files, registers, and other sources, resulting in analysis and synthesis of all reasonably available data. Class I inventories encompass prehistoric, historic, and ethnological/sociological elements, and are in large part chronicles of past land uses. They may have major relevance to current land use decisions.
- Class II - probabilistic field survey: a statistically based sample survey designed to help characterize the probable density, diversity, and distribution of archaeological properties in a large area by interpreting the results of surveying limited and discontinuous portions of the target area.
- Class III - intensive field survey: a continuous, intensive survey of an entire target area, aimed at locating and recording all archaeological properties that have surface indications, by walking close-interval parallel transects until the area has been thoroughly examined. Class III methods vary geographically, conforming to the prevailing standards for the region involved. (BLM 2004a)

**Cumulative effects:** According to the Code of Federal Regulations, a cumulative effect “is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time” (40 CFR 1508.7). In other words, these effects are the sum of the direct and indirect effects of an action and the direct and indirect effects of other actions on the same affected resources/uses.

**Decision Record:** The BLM document associated with an EA that describes the action to be taken when the analysis supports a finding of no significant impact. (BLM 2008a)

**Decommission:** The process of removing travel routes (i.e., transportation linear features) that are unauthorized or no longer needed. Transportation linear features that are not part of the defined travel route network or transportation system are transportation linear disturbances. The process for decommissioning routes may include site-specific reclamation actions, natural revegetation, or a toolset to complete reclamation should opportunities arise. Reclamation actions must be consistent with the goals and objectives for the area in which they occur. Reclamation can be passive or active. Linear features identified as transportation linear disturbances will remain in the national geospatial

dataset until reclamation and subsequent monitoring is complete or all on-the-ground indications of the route have vanished. After that, the BLM will remove these features from the national ground transportation linear feature dataset(s) but store them in a secondary local dataset of decommissioned and reclaimed routes. (BLM 2016b)

**Designated routes:** Specific roads and trails identified by the BLM where some type of use is appropriate and allowed. Route designations are implementation decisions that govern OHV activities on routes. (BLM 2016b)

**Direct effect:** Caused by the action and occur at the same time and place (40 CFR 1508.8(a)).

**Easement:** An authorization for a non-possessory, non-exclusive interest in lands which specifies the rights of the holder and the obligation of the BLM to use and manage the lands in a manner consistent with the terms of the easement. (43 CFR 2920.05 Definitions)

**E-bike:** Two- or three-wheeled cycle with fully operable pedals and an electric motor of not more than 750 watts (1 h.p.) that meets the requirements of one of the following three classes:

- Class 1 electric bicycle shall mean an electric bicycle equipped with a motor that provides assistance only when the rider is pedaling, and that ceases to provide assistance when the bicycle reaches the speed of 20 miles per hour.
- Class 2 electric bicycle shall mean an electric bicycle equipped with a motor that may be used exclusively to propel the bicycle, and that is not capable of providing assistance when the bicycle reaches the speed of 20 miles per hour.
- Class 3 electric bicycle shall mean an electric bicycle equipped with a motor that provides assistance only when the rider is pedaling, and that ceases to provide assistance when the bicycle reaches the speed of 28 miles per hour. (85 FR 69223, Nov. 2, 2020)

**Effect:** Impact to the human environment brought about by an agent of change, or action. Effects analysis predicts the degree to which the environment will be affected by an action. The CEQ uses both the terms “effect” and “impact” in the NEPA regulations; these terms are synonymous in the NEPA context. As a noun, other synonyms include consequence, result, and outcome. Effects can be both beneficial and detrimental, and may be direct, indirect, or cumulative. (BLM 2008a)

**Eligible cultural resource:** Cultural resources that are listed or recommended eligible for inclusion on the National Register of Historic Places (NRHP); this includes both properties formally determined as such by the Secretary of the Interior and all other properties that meet NRHP listing criteria (36 CFR 800.2(e)). A district, site, building, structure, object, traditional cultural property, historic landscape, or discrete group of thematically related properties, that represents America’s history, architecture, archaeology, engineering, or culture may be eligible for the NRHP (BLM 2004b). To be judged eligible, a property must possess integrity of location, design, setting, materials, workmanship, feeling, and association, and must meet at least one of the following criteria:

1. Property is associated with an event or events that have made a significant contribution to the broad patterns of America’s history.
2. Property is associated with the lives of persons significant in our past.
3. Property embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic value, or represents a significant and distinguishable entity whose components may lack individual distinction.
4. Property has yielded or may be likely to yield information important in prehistory or history.

**Endangered species:** Any species which is in danger of extinction throughout all or a significant portion of its range. (16 USC 1532 Definition)

**Endangered Species Act (ESA):** The Endangered Species Act establishes protections for fish, wildlife, and plants that are listed as Threatened or Endangered; provides for adding species to and removing them from the list of Threatened and Endangered species, and for preparing and implementing plans for their recovery; provides for interagency cooperation to avoid take of listed species and for issuing permits for otherwise prohibited activities; provides for cooperation with States, including authorization of financial assistance; and implements the provisions of the Convention on International Trade in Endangered Species of Wild Flora and Fauna.  
(<https://www.fws.gov/law/endangered-species-act>)

**Environmental assessment (EA):** A concise public document that provides sufficient evidence and analysis for determining the significance of effects from a proposed action and that serves as a basis for reasoned choice. Based upon the EA analysis, either an EIS or a FONSI will be prepared. (BLM 2008a)

**Environmental Impact Statement:** Federal agencies prepare an EIS if a proposed federal action will have a significant environmental impact (BLM 2008a). The regulatory requirements for an EIS are more detailed and rigorous than the requirements for an EA.

**Erosion:** Detachment and movement of soil or rock fragments by water, wind, ice, gravity; the land surface worn away by running water, wind, ice, or other geological agents, including such processes as gravitational creep. (BLM 2020)

**Facility:** All or any portion of a building, structure, site improvement, element, pedestrian route, or vehicular way located on a site. An element is an architectural or mechanical component, generally including toilets, picnic tables, grills, registration kiosks, etc. at a site (including a staging site). (BLM 2016b)

**Facility Asset Management System (FAMS):** The BLM's official database for the management of transportation system assets and facilities. (BLM 2016b)

**Finding of No Significant Impact:** A finding that explains that an action will not have a significant effect on the environment and, therefore, an EIS will not be required. (BLM 2008a)

**Functioning at Risk:** These riparian areas are in limited functioning condition; however, existing hydrologic, vegetative, or geomorphic attributes make them susceptible to impairment. (Dickard et al. 2015)

**Geographic Information System (GIS):** "System designed to capture, store, manipulate, analyze, manage, and present all types of geographical data. The key word to this technology is Geography – this means that some portion of the data is spatial. In other words, data that is in some way referenced to locations on the earth. Coupled with this data is usually tabular data known as attribute data. Attribute data can be generally defined as additional information about each of the spatial features. An example of this would be schools. The actual location of the schools is the spatial data. Additional data such as the school name, level of education taught, student capacity would make up the attribute data. It is the partnership of these two data types that enables GIS to be such an effective problem-solving tool through spatial analysis. GIS is more than just software. People and methods are combined with geospatial software and tools, to enable spatial analysis, manage large datasets, and display information in a map/graphical form." (University of Wisconsin-Madison Libraries)

**Ground Transportation Linear Feature (GTLF):** A geospatial database of all transportation linear features (from motorized to foot use) as they exist on the ground, not just those in the BLM transportation system (refer to the Ground Transportation Linear Features Data Standard Report, October 22, 2014, version 2.0 or later, for detailed information on the GTLF data standard). (BLM 2016b)

**Hard look:** A reasoned analysis containing quantitative or detailed qualitative information. (BLM 2008a)

**Historic property:** Any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the NRHP criteria. (BLM 2004a)

**Impact:** See “effect.”

**Impassable:** Roads intended for full-size vehicle passage that are otherwise impassable as a result of road deterioration or vegetation overgrowth; project-level road maintenance is required to make these roads passable. Road deterioration or vegetation overgrowth may be a result of neglect, irregular maintenance, or management decisions. (BLM 2014a)

**Implementation decisions:** Decisions that take action to implement land use planning; generally appealable to Interior Board of Land Appeals under 43 CFR 4.410 (BLM 2000). These decisions are generally more site-specific than land-use plan decisions.

**Implementation plan:** An area or site-specific plan written to implement decisions made in a land use plan. Implementation plans include both activity plans and project plans. (BLM 2000).

**Indirect effect:** Caused by the action and later in time or farther removed in distance, but still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on water and air and other natural systems, including ecosystems. (40 CFR 1508.8(b))

**Interdisciplinary Team (IDT):** A group of individuals with different training, representing the physical sciences, social sciences, and environmental design arts, assembles to solve a problem or perform a task. The members of the team proceed to a solution with frequent interaction so that each discipline may provide insights to any stage of the problem and disciplines may combine to provide new solutions. The number and disciplines of the members preparing the plan vary with circumstances. A member may represent one or more disciplines or BLM program interests.

**Invasive plants:** Plant species that are typically not found on the ecological site or should only be in the trace or minor categories under the natural disturbance regime and have the potential to become a dominant or codominant species on the site if their establishment and growth are not actively controlled by natural disturbances or management interventions. (BLM 2020)

**Land use plan:** A set of decisions that establish management direction for land within an administrative area, as prescribed under the planning provisions of FLPMA; an assimilation of land-use-plan level decisions developed through the planning process outlined in 43 CFR 1600, regardless of the scale at which the decisions were developed (BLM 2000). The term includes both resource management plans (RMPs) and management framework plans (MFPs).

**Linear disturbance:** A human-made linear travel or transportation related disturbance that is not part of the BLM’s transportation system or travel network. Transportation linear disturbances may include engineered (planned) but no longer needed features, as well as unplanned routes that have been identified for decommissioning and reclamation either passively or actively. Linear disturbances may also include permitted realty features (e.g., pipelines or power lines) that may or may not have travel routes maintained in association with them. (BLM 2012a, BLM 2016b)

**Linear feature:** Linear features represent the broadest category of physical disturbance (planned and unplanned) on BLM land. A linear feature is a linear ground disturbance that results from travel across or immediately over the surface of BLM-administered public lands. These features include engineered roads and trails, as well as user-defined, non-engineered routes, created as a result of public or unauthorized use. Linear features may also include permitted realty features (e.g., pipelines

or power lines) that may or may not have travel routes maintained in association with them. (BLM 2012a, BLM 2016b)

**Maintained road:** A road that is constructed, regularly maintained by mechanical means, and receives regular use.

**Mechanized travel:** Moving by means of mechanical devices not powered by a motor, such as a bicycle. (BLM 2016b)

**Minimally maintained route:** Route which receives low or minimal maintenance (i.e., maintained to a Maintenance Intensity Level 1 in accordance with Appendix A of BLM's 9113 Roads Manual (BLM 2015a) and Appendix A of BLM's 9115 Primitive Roads Manual (BLM 2012d)). These routes tend to be narrower than maintained routes (grading and brushing is not performed), maintenance is limited to that necessary to protect adjacent land and resource values, and they receive low use at low speeds.

**Minimize:** Limit the degree or magnitude of. (BLM 2008a)

**Mitigation:** Measures that could reduce or avoid adverse impacts. Mitigation measures have not been incorporated into the proposed action or an alternative (BLM 2008a). Mitigation can include: (a) avoiding the impact, (b) minimizing the impact, (c) rectifying (i.e., repairing, rehabilitating, or restoring) the impact (d) reducing or eliminating the impact through operations during the life of the project, or (e) compensating by replacing or substituting resources (40 CFR 1508.20).

**Monitoring:** The process of tracking whether decisions were implemented as designed, their effectiveness in achieving desired outcomes, and the effectiveness of mitigation measures. Monitoring can also determine whether the impact analysis was accurate. (BLM 2008a)

**Motorized vehicles:** Vehicles propelled by motors or engines, such as cars, trucks, off-highway vehicles, motorcycles, snowmobiles, and boats. (BLM 2016b)

**Multiple use:** The management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; the use of some land for less than all of the resources; a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output. (43 USC 1702(c))

**Native vegetation:** Species that historically occurred or currently occur in a particular ecosystem and were not introduced (BLM 2008b)

**Naturalness:** Refers to an area that "generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable" (Section 2[c] of the Wilderness Act of 1964).

**Non-mechanized travel:** Moving by foot or by stock or pack animal. (BLM 2016b)

**Noxious weed:** Any plant designated by a federal, state, or county government to be injurious to public health, agriculture, recreation, wildlife, or any public or private property. (BLM 2020)

**Objective:** A description of a desired condition for a resource. Objectives can be quantified and measured and, where possible, have established time frames for achievement. (BLM 2000)

**Off-highway vehicle (OHV):** Any motorized vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain, excluding: 1) any non-amphibious registered motorboat; 2) any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes; 3) any vehicle whose use is expressly authorized by the authorized officer, or otherwise officially approved; 4) vehicles in official use; and 5) any combat or combat support vehicle when used in times of national defense emergencies (as defined in 43 CFR 8340.0-5(a)). OHV is synonymous with off-road vehicle. (BLM 2016b)

**Off-highway vehicle (OHV) area designation:** A land use planning decision that permits, establishes conditions for, or prohibits OHV activities on specific areas of public lands. The BLM is required to designate all public lands as open, limited, or closed to OHVs. Below are definitions of these designations as taken from the 2016 BLM Travel and Transportation Management Manual (BLM 2016b):

**OHV-Closed Areas:** An area where OHV use is prohibited. Access by means other than OHVs, such as by motorized vehicles that fall outside the definition of an OHV or by mechanized or non-mechanized means, is permitted. The BLM designates areas as closed, if necessary, to protect resources, promote visitor safety, or reduce user conflicts (see 43 CFR § 8340.0-5(h)).

**OHV-Limited Areas:** An area where OHV use is restricted at certain times, in certain areas, and/or to certain vehicular use. Examples of restrictions include numbers or types of vehicles; time or season of use; permitted or licensed use only; use limited to existing, designated roads and trails; or other restrictions necessary to meet resource management objectives, including certain competitive or intensive use areas that have special limitations (43 CFR § 8340.0-5 (g)).

**OHV-Open Areas:** A designated area where all types of OHV travel is permitted at all times, anywhere in the area subject only to the operating restrictions set forth in subparts 8341 without restriction (43 CFR § 8340.0-5(f)). Open area designations are made to achieve a specific recreational goal, objective and setting and are only used in areas managed for intensive OHV activity where there are no special restrictions or where there are no compelling resource protection needs, user conflicts, or public safety issues to warrant limiting cross-country travel.

**Off-highway vehicle (OHV) route designations:** Implementation decisions that govern only OHV (43 CFR 8340.0-5(a)) activities on routes. The route designation is one of several decisions required to govern travel and transportation comprehensively. The BLM designates routes as open, limited, or closed, and the designation must be included in all route-specific decisions and recorded in the national ground transportation linear feature dataset(s). Definitions and the designation criteria used in this decision-making process stem from those provided for OHV areas in 43 CFR 8340.0-5(f), (g), and (h). (BLM 2016b)

- **OHV-Open:** OHV travel is permitted where there are no special restrictions or no compelling resource protection needs, user conflicts, or public safety issues to warrant limiting the timing or season of use, the type of OHV, or the type of OHV user.
- **OHV-Limited:** OHV travel on routes, roads, trails, or other vehicle ways is subject to restrictions to meet specific resource management objectives. Examples of restrictions include numbers or types of vehicles; time or season of use; permitted or licensed use only; or other restrictions necessary to meet resource management objectives, including certain competitive or intensive uses that have special limitations.
- **OHV-Closed:** OHV travel is prohibited on the route. Access by means other than OHVs, such as by motorized vehicles that fall outside of the definition of an OHV or by mechanized or non-mechanized means, is permitted. The BLM designates routes as closed to OHVs if necessary to protect resources, promote visitor safety, reduce use conflicts, or meet a specific resource goal or objective.

**Primitive road:** A linear route managed for use by four-wheel drive or high-clearance vehicles. These routes do not customarily meet any BLM road design standards. Unless specifically prohibited, primitive roads can also include other uses such as hiking, biking, and horseback riding. (BLM 2016b)

**Primitive route:** Any transportation linear feature located within a WSA or lands with wilderness characteristics designated for protection by a land use plan and not meeting the wilderness inventory road definition. (BLM 2016b)

**Proper Functioning Condition (PFC):** PFC describes both the assessment method and a defined, on-the-ground condition of a riparian area. The on-the-ground condition termed PFC refers to how well physical processes are functioning. A lotic riparian area is considered to be in PFC, or “functioning properly,” when adequate vegetation, landform, or woody material is present to:

- Dissipate stream energy associated with high waterflow, thereby reducing erosion and improving water quality.
- Capture sediment and aid floodplain development.
- Improve floodwater retention and ground-water recharge.
- Develop root masses that stabilize streambanks against erosion.
- Maintain channel characteristics.

A riparian area in PFC will, in turn, provide associated values, such as wildlife habitat or recreation opportunities. (Dickard et al. 2015)

**Reclamation:** Returning disturbed lands to a form and productivity that will be ecologically balanced and in conformity with a predetermined plan.

**Record of Decision (ROD):** Decision document associated with an EIS (BLM 2008a).

**Recreation Management Information System (RMIS):** The official BLM database for recording and tracking visitor use and acres with OHV area designations on BLM-managed lands; the BLM also uses it to track TMP completion and implementation. (BLM 2016b)

**Recreation Management Zone (RMZ):** Subunits within a SRMA managed for distinctly different recreation products. Recreation products are comprised of recreation opportunities, the natural resource and community settings within which they occur, and the administrative and service environment created by all affecting recreation-tourism providers, within which recreation participation occurs. (BLM 2005)

**Regularly maintained route:** Route that receives moderate or high levels of maintenance (i.e., maintained to a Maintenance Intensity Level 3 or 5 in accordance with Appendix A of BLM’s 9113 Roads Manual (BLM 2015a) and Appendix A of BLM’s 9115 Primitive Roads Manual (BLM 2012d)). These routes tend to be wide enough for two vehicles to pass, are generally maintained to keep the route in use for the majority of the year, and see moderate to high use at moderate speeds.

**Resource Management Plan (RMP):** (Also known as Land Use Plan or Management Framework Plan). A set of decisions that establish management direction for land within an administrative area, as prescribed under the planning provisions of the Federal Land Policy and Management Act of 1976, as amended, P.L. 94-579, 90 Stat. 2743; an assimilation of land use plan-level decisions developed through the planning process outlined in 43 CFR 1600, regardless of the scale at which the decisions were developed. (BLM 2008a)

**Restoration:** The process of assisting the recovery of a resource (including its values, services, and/or functions) that has been degraded, damaged, or destroyed to the condition that would have existed if the resource had not been degraded, damaged, or destroyed. (BLM 2021a)

**Right-of-way (ROW):** Authorization of rights and privileges for a specific use of the land for a specified period of time appropriate for the life of the project. The BLM has discretion to grant a ROW if doing so is in the public interest. (<https://www.blm.gov/programs/lands-and-realty/rights-of-way>)

**Rilling:** Shallow channeling from water that creates small, intermittent watercourses with steep sides, usually only several centimeters deep. Rills generally are linear erosion features running parallel to a slope. (BLM 2020)

**Riparian area:** A specialized form of wetland restricted to areas with characteristic vegetation along, adjacent to, or contiguous with perennially and intermittently flowing stream, lake, spring, and reservoir shore areas. Characteristic vegetation may range from hydrophilic plants such as pondweed through more terrestrial forms such as sycamores, cottonwoods, conifers, and willows. This habitat is transitional between true bottomland wetlands and upland terrestrial habitats, and while associated with water courses, may extend inland for considerable distances. (BLM 1991)

**Road:** A linear route declared a road by the owner, managed for use by low-clearance vehicles which have four or more wheels, and maintained for regular and continuous use. (BLM 2016b)

**Route:** Generic description for a component of the transportation system or travel network. (BLM 2016b)

**Route Evaluation:** The careful and systematic review of each route by a BLM interdisciplinary team in conjunction with resource data collection and discussion of minimizing potential impacts during preliminary alternative designations. It is the process through which a BLM interdisciplinary team of resource specialists assess individual routes and documents potentially affected resources and/or resource uses associated with each route. During route evaluation, BLM staff will:

- Propose individual route designations for each route in a TMA based on individual alternative themes.
- Address how each route will minimize impacts on resources per 40 CFR § 8342.1.
- Document rationales for each alternative designation choice.

**Route Inventory:** Collection of route data for maps (may also include collection of point data and photos) to inform the travel planning effort (BLM 2016b). Data may be collected in the field with GPS units or drawn on a computer screen from aerial imagery. The **original route inventory as used in this EA** refers to the first inventory created using a combination of previous travel plans, aerial photography, BLM and County GIS data, maps, and ground-truthing (i.e., driving routes on the ground). The **evaluation route inventory** refers to the routes remaining after removal of the non-route linear disturbances such as game trails, cattle trails, fence-lines, reclaimed historic routes (routes on old maps or aerial imagery that no longer exist on the ground), and seismic exploration scars. The **public comment route inventory** refers to the routes remaining after removal of the 375 miles of undesignated routes that had no public purpose or need.

**Scoping (Internal and External):** Process by which the BLM solicits internal and external input on the issues and effects that will be addressed, as well as the degree to which those issues and effects will be analyzed, in the NEPA document. Scoping is one form of public involvement in the NEPA process. Scoping occurs early in the NEPA process and generally extends through the development of alternatives (the public comment periods for EIS review are not scoping). Internal scoping is simply federal or cooperator review to decide what needs to be analyzed in a NEPA document. External scoping, also known as formal scoping, involves notification and opportunities for feedback from other agencies, organizations, and the public. (BLM 2008a)

**Sensitive Species:** Species that require special management consideration to avoid potential future listing under the ESA and that have been identified in accordance with procedures set forth in BLM Manual 6840 – Special Status Species Management. (BLM 2008c)

**Solitude:** The state of being alone or remote from others; isolation. A lonely or secluded place. Factors contributing to opportunities for solitude may include size, natural screening, topographic relief, vistas, physiographic variety, and the ability of the user to find a secluded spot. (BLM 2021b)

**Special recreation management area (SRMA):** An administrative unit where the existing or proposed recreation opportunities and recreation setting characteristics are recognized for their unique value, importance, or distinctiveness, especially compared to other areas used for recreation. (BLM 2014b)

**Special recreation permits (SRPs):** SRPs are issued to authorize specified and often time-restricted recreational uses of the public lands and related waters. The BLM issues SRPs to manage visitor use; to protect natural and cultural resources; to achieve the goals and objectives of Field Office recreation program as outlined in a land use plan; and to authorize specific types of recreational activities. There are five types of activities for which SRPs are required: commercial use, competitive use, vending, special area use, and organized group activity and event use. (BLM 2007)

**Special status species:** Collectively, federally listed or proposed and Bureau sensitive species, which include both Federal candidate species and delisted species within 5 years of delisting. (BLM 2008c)

**State Historic Preservation Officer (SHPO):** The State historic preservation officer (SHPO) reflects the interests of the State and its citizens in the preservation of their cultural heritage. In accordance with section 101(b)(3) of the National Historic Preservation Act, the SHPO advises and assists Federal agencies in carrying out their section 106 responsibilities and cooperates with such agencies, local governments and organizations and individuals to ensure that historic properties are taking into consideration at all levels of planning and development. (36 CFR 800.2)

**Substantial habitat:** According to the UDWR: “[Substantial] habitat [is] that which is used by a wildlife species but is not crucial for population survival. Degradation or unavailability of substantial value habitat will not lead to significant declines in carrying capacity and/or numbers of the wildlife species in question” (UDWR 2022c).

**Threatened species:** Any species which is likely to become an Endangered species within the foreseeable future throughout all or a significant portion of its range. (16 USC 1532 Definitions)

**Traditional uses:** Longstanding, socially conveyed, customary patterns of thought, cultural expression, and behavior, such as religious beliefs and practices, social customs, and land or resource uses. Traditions are shared generally within a social and/or cultural group and span generations. (BLM 2004a)

**Trail:** A linear route managed for human-powered, stock, or off-road vehicle forms of transportation or for historical or heritage values. The BLM does not generally manage trails for use by four-wheel-drive or high-clearance vehicles. (BLM 2016b)

**Travel Management Area (TMA):** An administrative planning unit used to provide a strategic approach to inventory, planning, management, monitoring, and administration of the travel network, transportation system, and OHV use on public lands. TMAs can be used to separate areas with a different travel management focus from the larger planning area for a specific reason, such as the area’s complexity or level of controversy, the need for a higher level of public involvement, consideration of special resource characteristics, or manageability of the area. A TMA’s boundary may be altered as needed to reflect changes in priority, additional available resources, or any other change in circumstance. (BLM 2016b)

**Travel Management Plan (TMP):** A document that describes decisions related to the selection and management of a travel network and transportation system. (BLM 2016b)

**Travel network:** Routes occurring on public lands or within easements granted to the BLM that are recognized, designated, decided upon, or otherwise authorized for use through the planning process or

other travel management decisions. These may or may not be part of the transportation system and may or may not be administered by the BLM. (BLM 2016b)

**Unevaluated (to the Natural Register):** A cultural site to which the NRHP eligibility criteria have not been applied. (BLM 2004a)

**Utility Terrain Vehicle (UTV):** Any recreational motor vehicle other than an ATV, motorbike or snowmobile designed for and capable of travel over designated unpaved roads, traveling on four (4) or more low-pressure tires, maximum width less than seventy-four (74) inches, usually a maximum weight less than two thousand (2,000) pounds, or having a wheelbase of ninety-four (94) inches or less. Utility type vehicle does not include vehicles specially designed to carry a person with disabilities. (BLM 2012a)

**Visual Resource Inventory (VRI):** The visual resource inventory process provides BLM managers with a means for determining visual values. The inventory consists of a scenic quality evaluation, sensitivity level analysis, and a delineation of distance zones. Based on these three factors, BLM-administered lands are placed into one of four visual resource inventory classes. These inventory classes represent the relative value of the visual resources. Classes I and II being the most valued, Class III representing a moderate value, and Class IV being of least value. The inventory classes provide the basis for considering visual values in the RMP process. (BLM 1986)

**Visual Resource Management (VRM):** The inventory and planning actions taken to identify visual values and to establish objectives for managing those values; and the management actions taken to achieve the visual management objectives. (BLM 1984)

**Visual resources:** The visible physical features on a landscape, (topography, water, vegetation, animals, structures, and other features) that comprise the scenery of the area. (BLM 1984)

**Wetlands:** Areas that have a predominance of hydric soils and that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions. Marshes, shallows, swamps, muskegs, bogs, and wet meadows are examples of wetlands. (BLM 1991)

**Wilderness characteristics:** These attributes include the area's size, its apparent naturalness, and outstanding opportunities for solitude or a primitive and unconfined type of recreation. They may also include supplemental values. Lands with wilderness characteristics are those lands that have been inventoried and determined by the BLM to contain wilderness characteristics as defined in section 2(c) of the Wilderness Act. (BLM 2021b)

**Wilderness Inventory Road:** Routes which have been improved and maintained by mechanical means to ensure relatively regular and continuous use. (BLM 2021b)

## APPENDIX J REFERENCES

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## APPENDIX K PUBLIC COMMENTS AND BLM RESPONSES

The BLM held a public comment period on the Preliminary EA from June 6 through July 22, 2024. See Section 4.2. Substantive comments received during the public comment period are summarized below; non-substantive comments were received and are included in this project's project file but are not addressed as part of the response to comments. Route specific public comments are all included in the project file.

### K.1 ROUTE-SPECIFIC PUBLIC COMMENTS

BLM received many route-specific comments from the public highlighting resource and use attributes specific to certain routes. BLM considered those route-specific comments and verified whether the resource and route attributes documented in the route reports is accurate and if not, made updates as appropriate.

The BLM reviewed route specific comments on 963 individual routes. New information was provided on the following routes: SS1018, SS1019, SS1023, SS1043, SS1056, SS1063, SS1132, SS1147, SS1149, SS1151, SS1234A, SS1392, SS1414, SS1415, SS1455, SS1472, SS1482, SS1485, SS1494, SS1497, SS1498, SS1532, SS1533, SS1535, SS1548, SS1551, SS2037, SS2053, SS2055, SS2056, SS2065, SS2068, SS2177, SS2226, SS2346, SS2419, SS2421, SS2422, SS2491, SS2533, SS2565, SS2566, SS2567, SS2577, SS2578, SS2579, SS2639, SS2752, SS2764, SS3228, SS3269, SS3270, SS3271, SS4226, SS4275, SS4430, SS4431, SS4432, SS4436, SS4437, SS4450, SS4451, SS4460, SS4463, SS4470, SS4471, SS4484, SS4485, SS4554, SS4563, SS4564, SS4580, SS4581, SS4586, SS4588, SS5021, SS5024, SS5036, SS5038, SS5060, SS5070, SS5071, SS5072, SS5080, SS5139, SS5178, SS6044, SS6077, SS6100, SS6106, SS6192, SS6059, SS4161, SS4172, SS5147, SS4259, SS4303, SS4242, SS4245, and SS4171.

The BLM updated route reports accordingly, and considered these route-specific comments while developing Alternative E.

The information provided in public comments on the following routes was already considered and captured on route reports: SS1020, SS1021, SS1028, SS1031, SS1033, SS1038, SS1040, SS1048, SS1049, SS1051, SS1071, SS1072, SS1104, SS1122, SS1144, SS1160, SS1161, SS1172, SS1179, SS1229, SS1234, SS1240, SS1255, SS1273, SS1283, SS1286, SS1288, SS1289, SS1294, SS1343, SS1354, SS1363A, SS1368, SS1369, SS1372, SS1378, SS1379, SS1385, SS1395, SS1396, SS1404, SS1406, SS1410, SS1418, SS1424, SS1425, SS1426, SS1430A, SS1434, SS1486, SS1487, SS1490, SS1493, SS1506, SS1510, SS1512, SS1515, SS1533A, SS1542, SS1543, SS2058, SS2060, SS2062, SS2064, SS2066, SS2070, SS2074, SS2076, SS2078, SS2079, SS2080, SS2082, SS2088, SS2108, SS2109, SS2145, SS2176, SS2183, SS2194, SS2195, SS2204, SS2205, SS2206, SS2209, SS2217, SS2218, SS2219, SS2224, SS2241, SS2242, SS2243, SS2420, SS2430, SS2481, SS2497, SS2498, SS2503, SS2505, SS2512, SS2514, SS2515, SS2523, SS2525, SS2526, SS2552, SS2620, SS2624, SS2644, SS2657, SS2658, SS2662, SS2663, SS2678, SS2681, SS2682, SS2683, SS2728, SS2736, SS2745, SS2755, SS3024, SS3045, SS3114, SS3115, SS3123, SS3167, SS3178, SS3184, SS3185, SS3186, SS3214, SS3268, SS3285, SS4164, SS4184, SS4185, SS4188, SS4198, SS4204, SS4206, SS4209, SS4214, SS4223, SS4226A, SS4271, SS4281, SS4287, SS4325, SS4537, SS4541, SS4553, SS5023, SS5058, SS5079, SS5099, SS5111, SS5125, SS5135, SS5144, SS5164, SS5170, SS5171, SS5188, SS5190, SS5208, SS5221, SS5229, SS5230, SS5237, SS5249, SS5251, SS5260, SS5264, SS5278, SS5302, SS5392, SS5420, SS6037, SS6038, SS6058, SS6089, SS6104, SS6113, SS5148, SS3505, SS4070, SS4072, SS4099, SS4102, SS4114, SS4138, SS4139, SS4141, SS4150, SS4187, SS1381, SS1383, SS3286, SS3345, SS3350, SS3357, SS3430, SS3440, SS3448, SS3478, SS4574, SS6130, SS6140, SS6165, SS6171,

SS1001, SS1002, SS1003, SS1005, SS1006, SS1007, SS1008, SS1009, SS1010, SS1011, SS1012, SS1015, SS1016, SS1017, SS1024, SS1027, SS1030, SS1034, SS1039, SS1054, SS1059, SS1060, SS1067, SS1068, SS1077, SS1083, SS1086, SS1087, SS1101, SS1102, SS1106, SS1109, SS1110, SS1111, SS1112, SS1113, SS1116, SS1125, SS1128, SS1131, SS1136, SS1141, SS1143, SS1165, SS1167, SS1171, SS1181, SS1182, SS1183, SS1184, SS1194, SS1195, SS1205, SS1218, SS1219, SS1220, SS1232, SS1235, SS1236, SS1238, SS1244, SS1245, SS1257, SS1259, SS1260, SS1261, SS1262, SS1272, SS1285, SS1300, SS1301, SS1302, SS1303, SS1314, SS1331, SS1335, SS1336, SS1337, SS1340, SS1341, SS1342, SS1349, SS1357, SS1386, SS1391, SS1393, SS1398, SS1399, SS1405, SS1409, SS1419, SS1423, SS1427, SS1430, SS1431, SS1432, SS1433, SS1436, SS1453, SS1459, SS1461, SS1463, SS1464, SS1467, SS1468, SS1471, SS1473, SS1474, SS1477, SS1478, SS1491, SS1492, SS1496, SS1496A, SS1499, SS1500, SS1501, SS1511, SS1516, SS1525, SS1526, SS1530, SS1530A, SS1531, SS1532A, SS1534, SS1536, SS1539, SS1539A, SS1541, SS1544, SS1545, SS1547, SS1547A, SS1553, SS1554, SS1555, SS1556, SS1561, SS1562, SS1566, SS1568, SS2001, SS2002, SS2024, SS2039, SS2044, SS2046, SS2057, SS2059, SS2069, SS2071, SS2073, SS2075, SS2081, SS2086, SS2089, SS2125, SS2133, SS2144, SS2150, SS2151, SS2153, SS2157, SS2161, SS2162, SS2168, SS2170, SS2173, SS2174, SS2179, SS2181, SS2182, SS2184, SS2186, SS2189, SS2199, SS2211, SS2221, SS2228, SS2230, SS2232, SS2233, SS2234, SS2236, SS2237, SS2239, SS2245, SS2246, SS2251, SS2257, SS2265, SS2268, SS2276, SS2281, SS2288, SS2292, SS2293, SS2306, SS2307, SS2317, SS2325, SS2353, SS2369, SS2370, SS2372, SS2373, SS2376, SS2379, SS2385, SS2386, SS2387, SS2389, SS2397, SS2444, SS2445, SS2451, SS2453, SS2454, SS2461, SS2465, SS2466, SS2470, SS2472, SS2475, SS2476, SS2479, SS2479A, SS2489, SS2506, SS2508, SS2529, SS2530, SS2531, SS2534, SS2535, SS2537, SS2539, SS2540, SS2550, SS2553, SS2560, SS2562, SS2568, SS2570, SS2571, SS2572, SS2573, SS2574, SS2576, SS2580, SS2581, SS2582, SS2584, SS2586, SS2588, SS2589, SS2590, SS2591, SS2594, SS2595, SS2597, SS2598, SS2599, SS2601, SS2602, SS2603, SS2605, SS2607, SS2614, SS2615, SS2622, SS2623, SS2633, SS2637, SS2638, SS2640, SS2641, SS2642, SS2643, SS2648, SS2652, SS2653, SS2659, SS2660, SS2666, SS2667, SS2668, SS2671, SS2675, SS2686, SS2687, SS2689, SS2695, SS2697, SS2709, SS2710, SS2714, SS2715, SS2721, SS2722, SS2723, SS2724, SS2725, SS2726, SS2727, SS2730, SS2743, SS2744, SS2746, SS2753, SS2756, SS2757, SS2758, SS2762, SS2766, SS2767, SS2769, SS2776, SS2783, SS2784, SS2792, SS2795, SS2803, SS2806, SS2807, SS3010, SS3011, SS3012, SS3025, SS3036, SS3038, SS3039, SS3040, SS3041, SS3042, SS3043, SS3044, SS3047, SS3048, SS3049, SS3050, SS3054, SS3061, SS3068, SS3071, SS3083, SS3084, SS3089, SS3090, SS3094, SS3113, SS3116, SS3145, SS3153, SS3158, SS3171, SS3175, SS3177, SS3180, SS3188, SS3189, SS3224, SS3225, SS3236, SS3239, SS3240, SS3241, SS3252, SS3262, SS3264, SS3272, SS3273, SS3274, SS3275, SS3277, SS3278, SS3279, SS3280, SS3281, SS3283, SS3290, SS3294, SS3295, SS3297, SS3302, SS3308, SS3314, SS3315, SS3322, SS3332, SS3341, SS3343, SS3346, SS3352, SS3366, SS3370, SS3378, SS3380, SS3381, SS3382, SS3383, SS3384, SS3388, SS3394, SS3413, SS3419, SS3420, SS3424, SS3425, SS3426, SS3434, SS3437, SS3438, SS3454, SS3464, SS3472, SS3475, SS3481, SS3482, SS3488, SS3498, SS3530, SS3532, SS4001, SS4002, SS4003, SS4004, SS4006, SS4010, SS4014, SS4017, SS4026, SS4027, SS4033, SS4034, SS4039, SS4040, SS4045, SS4047, SS4050, SS4052, SS4053, SS4054, SS4056, SS4059, SS4062, SS4064, SS4066, SS4067, SS4068, SS4074, SS4087, SS4090, SS4095, SS4096, SS4097, SS4100, SS4103, SS4106, SS4115, SS4116, SS4120, SS4121, SS4122, SS4125, SS4129, SS4136, SS4142, SS4148, SS4149, SS4154, SS4156, SS4169, SS4175, SS4176, SS4177, SS4178, SS4179, SS4191, SS4192, SS4193, SS4194, SS4199, SS4202, SS4205, SS4207, SS4210, SS4220, SS4221, SS4222, SS4224, SS4243, SS4244, SS4250, SS4253, SS4256, SS4264, SS4265, SS4266, SS4267, SS4268, SS4272, SS4276, SS4283, SS4288, SS4289, SS4291, SS4292, SS4294, SS4298, SS4300, SS4301, SS4302, SS4304, SS4305, SS4306, SS4308, SS4313, SS4318, SS4322, SS4324, SS4327, SS4336, SS4337, SS4342, SS4423, SS4441, SS4449, SS4491, SS4492, SS4497, SS4498, SS4499, SS4502, SS4507, SS4508, SS4509, SS4513, SS4513A, SS4521, SS4526, SS4528, SS4529, SS4530, SS4531, SS4532, SS4533, SS4540, SS4542, SS4546, SS4547, SS4548, SS4555, SS4556, SS4562, SS4568, SS4571, SS4572, SS4575, SS4576, SS5001, SS5002, SS5003, SS5004, SS5007, SS5012, SS5013, SS5019, SS5022, SS5025, SS5026, SS5050, SS5051,

SS5069, SS5073, SS5077, SS5081, SS5083, SS5087, SS5091, SS5102, SS5127, SS5128, SS5129, SS5130, SS5131, SS5132, SS5138, SS5145, SS5150, SS5158, SS5160, SS5162, SS5176, SS5186, SS5187, SS5209, SS5210, SS5211, SS5212, SS5213, SS5214, SS5216, SS5219, SS5220, SS5224, SS5225, SS5226, SS5242, SS5242A, SS5255, SS5257, SS5274, SS5325, SS5326, SS5328, SS5329, SS5345, SS5346, SS5385, SS5388, SS5389, SS5391, SS5393, SS5394, SS5395, SS5402, SS6003, SS6017, SS6019, SS6023, SS6036, SS6055, SS6056, SS6086, SS6091, SS6094, SS6095, SS6096, SS6123, SS6128, SS6139, SS6141, SS6147, SS6148, SS6154, SS6184, SS6185, SS6189, SS6191, SS6193, and SS7000.

Although changes to the route reports were not needed for these routes, these route-specific comments were considered while developing Alternative E.

## K.2 PRELIMINARY EA PUBLIC COMMENTS

Topic	Comment Summary	BLM Response
ACECs	The BLM should determine if any routes with OHV-Open or -Limited designations within ACECs could cause adverse impacts to relevant and important values. If adverse impacts are expected, the BLM should close those routes, or create an OHV limitation to protect those values.	The analysis for ACECs has been revised to include route specific information and a conclusion of impacts to the R&I values. See Appendix A, Section AIB-3 (ACECS). The BLM already has the authority to close any route where resource impacts are occurring through the RMP's decision OHV-2 (see Section 1.5 Table 1-2)
ACECs	BLM did not analyze impacts to designated ACECs, but instead generally analyzed overall impacts to relevant and important values including scenic quality, cultural and historic values, vegetation and paleontological resources. EA at App. A at 117. BLM needs to analyze how alternative travel networks may impact cultural values and scenic values within individual ACECs that were designated specifically to protect those values. See EA at 30-33 (failing to discuss or mention ACECs designated to protect cultural values) and 83-88 scenic. BLM also does not analyze how route designations will protect cultural resources. Instead, it mostly lists the number of different site categories that may be damaged by OHV use. Rather than analyze impacts from route designations to scenic impacts to each ACEC, the EA merely discusses overall impacts to the three overall visual resource inventory and visual resource management classes. Id. It does not discuss the specific impacts to scenic values in each ACEC. BLM is considering designating 35 miles of new OHV routes in designated ACECs in Alternative C and 83 miles of new OHV routes in Alternative D within designated ACECs.	The analysis for ACECs has been revised to include route specific information and a conclusion of impacts to the R&I values. See Appendix A, Section AIB-3 (ACECS).

Topic	Comment Summary	BLM Response
Air Quality	<p>The BLM should consider incorporating the following measures:</p> <ul style="list-style-type: none"> <li>• Limit idling of heavy diesel equipment and transportation vehicles;</li> <li>• Require heavy diesel equipment to use cleanest available engines or retrofits with diesel particulate control technology;</li> <li>• Include requirements for the maintenance of engines; and</li> <li>• Minimize fuel use and emissions by limiting unnecessary trips to and from the TMA.</li> </ul>	This information has been added to Appendix H, Section H.4.
Air Quality	<p>The BLM should expand the discussion of air quality conditions by including background concentrations in relation to the NAAQS (e.g., design values) and air quality related values (AQRV) monitoring data from monitors near the TMA. For AQRV data, specifically monitors in Moab and Capitol Reef, Canyonlands, Arches National Parks, and the National Atmospheric Deposition Database. The BLM should identify sensitive receptors such as population centers, inhabited structures or residences, nonattainment areas, Class I Areas (including nearby national parks), and Class II Areas with resources of value that are sensitive to air quality. The BLM should a baseline estimate of emissions for trail use and maintenance based on vehicle miles travelled by vehicle type within the TMA.</p>	<p>There are no monitors with design values within or near the TMA that could be used as a proxy for existing air quality in the TMA with regards to the primary pollutant of concern for this action (PM10). The National Atmospheric Deposition Database tends to look at wet deposition of nitrogen and sulfur and does not include PM deposition which is the primary pollutant of concern for travel management. Class I areas near the TMA and a discussion of visibility have been included in Section A.1. A baseline emissions inventory utilizing the National Emissions Inventory has been added to Section A.1. The BLM does not have the necessary data to provide a baseline emissions inventory for public OHV use by vehicle mile per vehicle type because casual public OHV use does not require BLM permits. The BLM's data for OHV-use is limited to the traffic counter data disclosed in Table 3-12, which does not distinguish between vehicle types or extrapolate miles traveled by the vehicle. However, assumptions behind the vehicle miles traveled and maintenance have been clarified. See AIB-1 Section A.1 for additional information on air quality.</p>
Air Quality	<p>The BLM should provide an emissions inventory for the project for emissions from OHV loading and offloading, OHV use, and route maintenance. The BLM should estimate air pollutant emissions within the TMA based on maintenance-related equipment and projected vehicle miles per visitor and vehicle type (highway and off-highway vehicles, motorcycles, and 2- and 4-stroke engines). The BLM should analyze emissions related to increase or decrease in use due to changes in route designation. The BLM should solicit</p>	<p>A baseline emissions inventory utilizing the National Emissions Inventory has been added to section A.1. The BLM does not have the necessary data to provide a baseline emissions inventory for public OHV use by vehicle mile per vehicle type because casual public OHV use does not require BLM permits. The BLM's data for OHV-use is limited to the traffic counter data disclosed in Table 3-12, which does not distinguish between vehicle types or extrapolate miles traveled by the vehicle. However, assumptions behind the</p>

Topic	Comment Summary	BLM Response
	information for these estimates from local communities and interested organizations.	vehicle miles traveled and maintenance have been clarified. See AIB-1 Section A.1 for additional information on air quality.
Air Quality	The information does not clearly support the conclusion that the number and distribution of visitors is unlikely to change across alternatives and that the alternatives would change the route networks available for motorized recreation opportunities they would not meaningfully change visitation to these popular areas nor would they result in visitor use being distributed differently across the TMA. It is plausible that the selection of an alternative may increase or decrease visitor numbers, change the types of OHVs used, and modify the distribution of visitors. The BLM indicates that it has either collected no visitation data or that confidence in visitor use estimates is low in over half of the Route Network Geographic Areas. Further, the BLM also has not presented any survey data demonstrating how OHV users may respond to route closures or limitations. Therefore, based on the data presented, it is difficult to meaningfully conclude that limiting or closing routes in these Route Network Geographic Areas would have no effect on the number and distribution of visitors. This affects the analysis in environmental justice, big and upland game, air quality, and climate-related impacts and greenhouse gas emissions	<p>The BLM selects locations for collecting precise visitation data (traffic counters) based on areas of public interest, areas known to be high use, and areas popular within a specific user group as well as some low-use areas to better understand how many recreationists travel to more remote areas. These preliminary assessments, as well as the many data sources used or consulted when determining estimates, are summarized in Appendix D.3 and are available to the public upon request. While there are network areas lacking quantitative data, traffic counters in nearby network areas corroborate that these backcountry zones are low use; again, see discussion in Appendix D.3. Through these analyses the BLM determined that changes to visitation within the zones or among the user groups listed in Appendix D.3 either would not be statistically significant relative to overall visitation or would be significant but would not be substantive enough to impact other resources (see respective analyses or AIBs).</p> <p>Sections 3.1 (Assumptions), 3.3.4.1 (Recreation), AIB-1 (Air Quality), AIB-2 (Greenhouse Gases), AIB-6 (Environmental Justice), AIB-10 (Socioeconomics), and AIB-18 (Big Game and Upland Game) were updated to better cross reference the traffic counter data behind the visitor change assumption, which is summarized in Section 3.1 and detailed in Table 3-12.</p>
Alternative A	The BLM should clarify how the TMP addresses route designation in the areas where OHV-7 promised future planning. The BLM should add a map showing where these former OHV open areas are and what routes are open, limited, or closed in those areas.	The BLM updated Section 2.1.1 to clarify how the TMP addresses the open areas where the 2008 RMP made no route designations.
Alternative A	The BLM should describe the process used to develop Alternative A, and the management year it reflects, because it reflects decisions that have been made without public input and engagement on issues critical to the TMP baseline. For example, the 2008 RMP left out of the Proposed RMP/Final EIS Preferred Alternative the Chimney Rock/Summerville/Humbug Trail System. Also, the 2008 RMP	<p>The BLM has updated the Alternative A description, Section 2.1.4, with additional information about its development including additional information about the influence of the Dingell Act and the inclusion of the Goodwater Rim Mountain Bike trail.</p> <p>The Chimney Rock/Summerville/Humbug Trail System was included in the 2008 RMPs TMP. See the RMP/ROD pages 26 and</p>

Topic	Comment Summary	BLM Response
	included five WSAs with motorized opportunities within them, but the TMP says no WSAs are present and instead acknowledges the 2019 Wilderness Areas without describing the lost motorized opportunities. Also, Alternative A does not reflect the 2008 RMP's TMP baseline map or address the open areas that did not receive route designations. Finally, the 2008 RMP predated e-bikes, but Alternative A includes a limited to bikes including e-bikes route.	<p>36 and Decision Rec-70, and was therefore included in Alternative A.</p> <p>In 2019, the Dingell Act Section 1231 converted the majority of the WSAs in the TMA to Wilderness Areas, and Section 1234 released the rest of the WSAs from further wilderness study. Therefore, there are no WSAs in the TMA. WSAs have been added to Table 1-4 in Chapter 1.</p> <p>The BLM updated Section 2.1.1 to clarify how the TMP addresses the open areas where the 2008 RMP made no route designations.</p>
Alternative A	Page 1 of the EA inaccurately summarizes the Alternative A position as follows: "Throughout this EA those routes that were undesignated in the 2008 Price RMP will be included with the OHV-Closed routes in Alternative A." This clearly directly conflicts with the information provided as Alternative A reflects not only routes closed in the 2008 RMP but also removes any routes closed in subsequent Congressional action from any analysis.	The BLM has clarified footnote 3 on page 1. It has also been added to Section 2.1.4
Alternative A	Alternative A of the Proposal also presents an interpretation of many legal issues and claims that were found deficient for other reasons and some of these were specifically recognized in the District Court decision in this issue that drove the Settlement. While we would assert that minimization was completed and poorly documented this does not alter the fact that current management cannot be based on a TMP that was found legally insufficient by the District Court of Utah. This is problematic from a legal perspective given the previous findings of the District Court but violates the requirements of the Settlement Agreement.	The prior litigation over the San Rafael Swell TMP adopted in 2008 did result in a partially adverse decision specific to a different TMP and also resulted in a Settlement Agreement. The 2008 route designations were not vacated by the court or the Settlement and have remained in effect. The route network currently in effect is reflected in Alternative A.
Alternative A	The Settlement Agreement provided the BLM time to resolve failures in the 2008 RMP/TMP and this requirement was confirmed by the 10th Circuit. Rather than resolving these challenges the BLM has simply chosen to try and avoid analysis of these failures, which is immensely problematic. Given this previous Court findings on the legal insufficiency in decision making around the 2008 RMP, we must question why the same failures are thought to be sufficient in this effort. Not only is this process a violation of the	The 2017 Settlement Agreement did not vacate the RMP's TMP. BLM respectfully disagrees with the commenter's interpretation of the contents and legal implications of the 2017 Settlement Agreement.

Topic	Comment Summary	BLM Response
	Settlement it is also a violation of various NEPA regulations as well. The only way for the Proposal to preserve all claims and avoid concessions of claims is to start the planning effort with the 2003 TMP that was in place before the 2008 TMP was finalized.	
Alternatives	Alternative D fails to address that existing RMP/TMP decisions that were challenged already closed more than 730 miles (25%+/-) in the planning area. While a 2% closure under Alternative D may appear appealing, it is 27% closure rates from historical usage.	It is unclear where the comment's 730 miles of closures figure came from. The Price RMP page 26 explains that the RMP's TMP inventoried 1,760 miles of routes in the entire planning area, of which only 1,154 miles met the designation criteria, and 606 miles were designated. That leaves 670 miles of routes undesignated in the entire planning area. These numbers do not include the 670 miles of routes from the 2003 San Rafael Route Designation Plan which were carried forward for designation in the RMP's TMP. The route closures from the 2008 RMP are reflected in Alternative A.
Alternatives	The BLM should comply with the Outdoor Americans with Disabilities Act by ensuring there are 2.5 miles of accessible roads for every square mile in order to provide accessibility to those with physical limitations.	Outdoor Americans with Disabilities Act has not been signed into law. The TMP complies with all applicable laws and policies that are currently enacted. Also, the BLM has updated AIB-6 to address impacts to persons with disabilities.
Alternatives	The BLM should include an alternative based on the 2008 RMP, though it can include the Wilderness designations so long as the closed wilderness routes are reflected.	The BLM clarified Alternative A to show it represents the current route management system as of 2024.  The BLM added Carrying Forward the 2008 RMP's TMP as an Alternative considered but dismissed. See Section 2.1.13.  Regarding routes in the Wilderness designation, see footnote 12 on page 25.
Alternatives	The BLM should include an alternative based on the 2003 San Rafael Route Designation Plan because the Price RMP's TMP, which replaced it, was subject to the Settlement Agreement.	The BLM clarified Alternative A to show it represents the current route management system as of 2024.  The BLM added Carrying Forward the 2003 San Rafael Route Designation Plan as an Alternative considered but dismissed. See Section 2.1.14.
Alternatives	Alternative A is wholly incomplete. Scores of routes are not inventoried which are in the county's travel network. The closest	BLM developed the route inventory as described in Section 2.1.1. The BLM updated Section 2.1.1 with additional information about the formation of the TMA inventory. See footnote 1. This process

Topic	Comment Summary	BLM Response
	alternative to what people on the ground would recognize is Alternative D.	included the county's data and maps. The public had an opportunity to identify routes missing from the inventory during the public periods. Any routes missing at this late stage in the process will have to be addressed in a different document. For example, the BLM knows that additional route planning will be necessary for the routes to be acquired in the Dingell Act land exchange (see Section 1.3 and Table 1-3 Lands and Access).
Alternatives	The BLM should analyze an alternative that builds new e-bike and mountain biking trails.	Building new routes is outside the scope of this EA as described in Section 1.2.
Alternatives	The BLM should analyze an alternative where access is managed through Signing, Fencing/Gating, Patrol/Surveillance, Erosion Control (off-site), Fire Control (off-site), Stabilization, Erosion Control (on site), Fire Control (on-site), Detailed Recording, Relocation, Adaptive Reuse of Structures, and Archaeological Data Recovery Techniques instead of closing routes.	The range of alternatives analyzed in the EA address the resource issues identified on OHV-Open and OHV-Limited routes through the measures included in the Implementation Guide, Appendix H.
Alternatives	The BLM should analyze an alternative where motorized routes are not limited to bikes or e-bikes.	Both Alternatives A and B do not create any new e-bike route OHV-limitations, though they both carry forward existing e-bike route designations.
Alternatives	The BLM should consider an alternative that leaves duplicative, reclaiming, dead end, or spur routes open unless there is no purpose for the route. Purposes may include a different experience from other routes, dispersed camping, rock hounding, hunting, fishing, scenic overlooks, and wood cutting.	<p>Reclaimed routes were not considered in accordance with BLM Policy, see BLM Manual 1626 Section 1.4.C.6 and 4.11 regarding transportation linear disturbances. See also EA Section 2.1.1.</p> <p>Reducing duplicative (redundant) routes within the TMA was a goal in developing the different Alternatives. However, the BLM considered opening some redundant routes in some alternatives considering the purpose and need and impacts of the routes. The Decision Record will explain how any redundant routes remaining open in the Alternative will comply with TRV-4 and WL-8.</p> <p>The range of alternatives analyzed in the EA consider assigning various OHV-Closed, OHV-Open, or OHV-Limited designations to duplicative, dead end, and spur routes depending on the emphasis of Alternatives B, C, and D and the needs of the network in each alternative.</p>

Topic	Comment Summary	BLM Response
		<p>All routes with no purpose or need were removed from the TMP. See Section 2.1.11.</p> <p>The TMP routes' purposes are documented in the Route Reports. See Appendix G.</p>
Alternatives	The BLM should leave routes open to provide emergency vehicle access and economic benefit to nearby communities such as ranching and mining operations access.	<p>Emergency access is excluded from the definition of an OHV under 43 CFR 8340.0-5, therefore emergency access is always permitted. See also RMP Decision TRC-18, as well as this EA's page 1 footnote 2, Table 1-4 (Fuels and Fire Management), and AIB-13.</p> <p>Vehicles in authorized use, such as permitted ranching and mining operation access, are also excluded from the definition of an OHV under 43 CFR 8340.0-5, therefore authorized access is also always permitted. See also this EA's page 1 footnote 2, Section 1.3, AIB-7, and AIB-15.</p>
Alternatives	The BLM should manage, patrol, and enforce route use and add staffing and funding for monitoring to address resource impacts as alternatives to closing routes to use.	BLM's budget is determined by Congress and therefore cannot unilaterally increase funding to hire additional staff. The range of alternatives analyzed in the EA address the resource issues identified on OHV-Open and OHV-Limited routes through the commitments included in the Implementation Guide, Appendix H which were made considering current and projected agency staffing and budget.
Alternatives	The BLM should include an alternative that adds new routes in the TMA, as allowed by the Settlement Agreement.	The addition of new routes is outside the scope of the EA as described in Section 1.2.
Alternatives	The BLM should clarify if and how the 1,430 miles of BLM system and County roads mentioned on the 2008 RMP page 29 are addressed in the TMP.	The BLM updated Section 2.1.1 with additional information about the formation of the TMA inventory. See footnote 1.
Aviation	The BLM should provide signing on airstrips that are OHV-open to warn OHVs of the potential for aircraft landings.	The BLM updated the Implementation Guide with a commitment to install aviation-related signs as appropriate.
Aviation	The BLM should include a table of airstrips with the name of the airstrip, latitude and longitude coordinates, and route number to	BLM added to the Decision Record a table to show all airstrips designated as OHV-Open or OHV-Limited to aircraft.

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	make it easier for pilots to determine which airstrips are open for takeoffs and landings.	
Aviation	BLM should consider requesting the FAA show the borders of wilderness areas on aeronautical charts as a noise-sensitive area boundary. Pilots are requested to fly at least 2,000 feet above ground level over noise-sensitive areas, except as necessary for take-off and landing.	This comment is outside the scope of this EA. However, the BLM agrees that aeronautical charts showing wilderness areas as noise-sensitive areas would be useful, and will look into having the FAA update the Aeronautical charts and flight maps to show the Wilderness areas in the San Rafael Swell
Aviation	The BLM should not close airstrips due to vegetation encroachment or assume the airstrips are no longer used. The strips are maintained by volunteers from Recreational Aviation Foundation, UT Backcountry Pilots, New Mexico Pilots Association, and other organizations.	The BLM is not closing any airstrips for the sole reason that they have become overgrown with vegetation. Closures consider many resource impacts, user conflicts, and other concerns. Specific route rationale statements can be found in Appendix C, Appendix G, and the decision record table. The BLM appreciates the efforts of public land volunteers.
Aviation	The impact to cultural resources, vegetation, soils, water, weeds, wildlife, and visual resources from aircraft is small because airstrips are short and aircraft need no other infrastructure.	Since aircraft can land on any OHV-open route, the BLM determined it was unnecessarily confusing to focus on the shortness of an airstrip in describing the impact of aircraft to various resources.
Aviation	Aircraft are used as another way to access these lands. They are compatible with the Travel Related Management Goals in the Price and Richfield RMPs, specifically TRV-6 and TRV-7 (Table 1-2.) They are also compatible with the general Recreation Goals and Transportation Facilities and Goals for the Richfield RMP (Table 1.2.)	The BLM added back country aviation to Sections 3.2.5 and 3.3.4.1.
Aviation	BLM should include back country aviation in the description of regional recreational opportunities.	The BLM added back country aviation to Sections 3.2.5 and 3.3.4.1.
Aviation	Back country aviation was not mentioned in the recreation section under recreational opportunities. The BLM should update the recreational opportunities list and respond with the location in the EA where it was updated.	The BLM added back country aviation to Sections 3.2.5 and 3.3.4.1.

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Aviation	The BLM should revise the statement that "...aircraft would use designated airstrips" to acknowledge that aircraft are OHVs and as such are allowed to land on any OHV-open route.	The BLM updated Section 3.3.4.3 with the information that aircraft could land on any OHV-open route.
Aviation	The BLM should acknowledge that the noise from aircraft is short term and transient, amounting to only a few minutes during daylight hours in good weather. Once on the ground aircraft are quiet.	The BLM updated Section 3.3.4.3 with the information regarding aircraft noise.
Aviation	The BLM should review the document "Recreational Airstrips on Public Lands – A Reference for Public Land Managers" which was developed to assist public land managers in making informed, defensible decisions about recreation airstrips and their use.	The BLM has reviewed the document "Recreational Airstrips on Public Lands." No changes were made to the EA as a result. Although not all recommended airstrips could be brought forward in this planning effort, let that not be a detriment to further collaboration on airstrip development on public lands. Any airstrips missing at this late stage in the process will have to be addressed in a different document.
Back Country Airstrips	<p>BLM should consider adding Gilson's Butte airstrip to the TMP. BLM should avoid language that restricts aircraft to only landing on designated airstrips.</p> <p>BLM should not close airstrips due to vegetation encroachment or assume the airstrips are no longer used.</p> <p>Signage on airstrips to caution other OHVs to avoid driving or parking on the runway surface should be added as a BMP to minimize conflicts between users and rutting.</p>	<p>Gilsons Butte was not an inventoried route and was not brought to the table during the formal scoping period, and therefore it will not be considered for designation as part of this TMP.</p> <p>BLM is not closing any airstrips for the sole reason that they have become overgrown with vegetation. Closures consider many resource impacts, user conflicts, and other concerns. Specific route rationale statements can be found in Appendix C, Appendix G, and the decision record table.</p> <p>BLM updated the Implementation Guide with a commitment to install aviation-related signs as appropriate.</p>
Back Country Airstrips	Various information was provided on the Hidden Splendor airstrip.	The route forms have been compared with the information provided and updated with new information as appropriate.
Back Country Airstrips	Various information was provided on the McKay Flat airstrip.	The route forms have been compared with the information provided and updated with new information as appropriate.

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Back Country Airstrips	Various information was provided on the Cliff Dweller Flat Airstrip.	The route forms have been compared with the information provided and updated with new information as appropriate.
Back Country Airstrips	Various information was provided on the Sagebrush Bench Airstrip.	The route forms have been compared with the information provided and updated with new information as appropriate.
Cooperation/Coordination	Capital Reef National Park requests the BLM work with them in sign planning for mutually desired conditions for visitor education, safety, and posting regulations prohibiting UTVs/ATVs on Park roads. They also request further discussions with the BLM regarding preventing and responding to off-road impacts.	The BLM updated the Implementation Guide Sections H.5 and H.3 with these requests
Cooperation/Coordination	The BLM should meet with the Ferron City Council to allow the city to be better informed on the TMP and provide input on the TMP.	All nearby city mayors, including Ferron City, were informed when the preliminary alternatives and documents were released in February 2024. Ferron City Council did not respond to that notification, and did not request any special meetings. The cities were also informed and invited to participate in the public scoping period in 2021, and again for this formal public comment period in June/July 2024.
Cooperation/Coordination	The presence of cultural resource sites should not be the primary justification for any closures. Instead of closures, the BLM should invite BRC and other recreation-focused stakeholders to participate in the planning process and Section 106 consulting process to ensure that all management tools are explored for preventing impacts to cultural resource sites.	The range of alternatives analyzed in the EA address the resource issues identified on OHV-Open and OHV-Limited routes through the measures included in the Implementation Guide, Appendix H.  The BLM invites participants in the planning process in accordance with NEPA and Federal Advisory Committee Act requirements.  The consulting parties in the Section 106 process are listed in the EA Section 4.1.1.
Cultural Resources	The BLM must survey, record, evaluate, and consider the effect of this undertaking on historic roads that qualify for National Register nomination, such as R.S. 2477 roads. In particular, natural reclamation of R.S. 2477 roads due to closure will have an adverse effect because it will change the character of the property and physical features of that property. Closure also constitutes neglect. The BLM should use minimization or mitigation instead of closure to protect the road.	The BLM conducted surveys consistent with its obligations under NHPA Section 106, as described in Section 3.3.1.1. The effects of the undertaking as well as the way BLM proposes to address the effects are documented in Section 3.3.1.2 and the Historic Properties Treatment Plan. The commenter wrongly assumes that all asserted R.S. 2477 rights of way qualify for inclusion in the National Register.

Topic	Comment Summary	BLM Response
		The range of alternatives analyzed in the EA address the resource issues identified on OHV-Open and OHV-Limited routes through the measures included in the Implementation Guide, Appendix H.
Cultural Resources	The BLM should analyze how concentrating users on fewer open routes will affect frequency and severity of damage to cultural resources due to increased passing on routes, illegal use of routes.	As discussed in Section 3.1, and per the data in section 3.3.4.1 and Table 3-12, because the five most popular recreation opportunities in the RMZs account for 41.5% of the recreation to the TMA, even though the alternatives would change the route networks available for motorized recreation opportunities, they would not meaningfully change visitation to these popular areas nor would they result in visitor use being distributed differently across the TMA.
Cultural Resources	Routes that access old mining sites have historical value and a purpose and need and should remain accessible to motorized users. This includes SS4145, SS4147, and SS4148. Closing these routes gives priority to non-motorized group access.	The BLM considered alternatives that ranged from providing OHV-based access to the old mining sites and closing access to the old mining sites for preservation purposes.
Cultural Resources	The BLM should analyze an alternative where access is managed through Signing, Fencing/Gating, Patrol/Surveillance, Erosion Control (off-site), Fire Control (off-site), Stabilization, Erosion Control (on site), Fire Control (on-site), Detailed Recording, Relocation, Adaptive Reuse of Structures, and Archaeological Data Recovery Techniques instead of closing routes.	The range of alternatives analyzed in the EA address the resource issues identified on OHV-Open and OHV-Limited routes through the measures included in the Implementation Guide, Appendix H.
Cultural Resources	The BLM should not use cultural site effects to justify route closures except on the route that affect the six potentially adversely affected sites. Even for the routes that affect those six sites, closure should only be considered after other remedies such as signs, route marking, tread work, or relocating the route, are implemented.	No cultural sites are being closed to public access, however motorized access to sites may be restricted. Mitigation measures are considered and used when possible to keep motorized routes open, but sometimes motorized closure are the most appropriate way to protect these sites. The BLM prepared a Historic Property Treatment Plan which contains more information and examples on how the BLM applied mitigation measures rather than closures.
Cultural Resources	Table 3-2 indicates that anywhere between 67 to 119 sites eligible for listing under the National Register of Historic Places (NRHP) would be intersected by an OHV-open or OHV-limited route, depending on the alternative selected. Likewise, Table 3-3 indicates that one NRHP listed site is located within 100 feet of an OHV-	The decision-making process for weighing OHV-Open and OHV-Limited routes against potential impacts to cultural sites can be found in the DR's route specific rationale. The BLM also prepared a Historic Property Treatment Plan which contains more information

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	open or OHV-limited route under Alternatives A, B, and C, and two such sites are located within 100 feet of an OHV-open or OHV-limited route under Alternative D. The BLM should discuss the decision-making process of weighing OHV-open or -limited routes against the irrevocable impacts to the sites.	and examples on how the BLM applied mitigation measures rather than closures.
Cultural Resources	The BLM should adjust the temporal scope of cultural resources to 20 years to be consistent with the other resources, or explain why the 10-year timeframe was chosen.	BLM has adjusted the temporal scope to be consistent with the rest of the EA. See section 3.3.1.
Cultural Resources	The BLM should disclose the Tribal and other cultural consultation efforts made thus far including when consultation was initiated, what means of communication were used (phone, email, letter), feedback received, and how feedback was incorporated into the decision-making process.	BLM has added information about consultation since the Draft EA. See section 4.1.1 for information about NPPA Section 106 Consultation. See section 4.1.2 for Government-to-Government Tribal Consultation.
Cultural Resources	The BLM should discuss background information such as the fragility and religious and historical significance of the 1,398 cultural sites analyzed by the BLM.	The BLM updated section 3.3.1.1 with more background information on the types of sites that are found within this TMA.
Cultural Resources	<p>The BLM has not confirmed they conducted Class III surveys to comply with the requirements of the Settlement Agreement. BLM must provide more information regarding the extent of its Class III inventories.</p> <p>The BLM failed to take a hard look at the direct, indirect and cumulative impacts to cultural resources, including ineligible sites and isolated finds. The BLM provides no real information about the different cultural resources that are present in the TMA and merely provides the number of cultural sites and isolated finds documented within the APE. EA at 30. The BLM does not discuss the different kinds of sites within the TMA or the time period of sites. Id. at 30-33. The EA provides only a general and cursory assessment of potential impacts that OHVs can cause to cultural resources. Id. at 30-33. The EA states that OHV travel can cause soil erosion and erosion of artifact deposits. Id. at 31. Indirect effects from OHV use includes site vandalism or looting as well as dust accumulation on cultural resources. Id. These sorts of generalized statements are not</p>	The BLM updated section 3.3.1.1 with more background information on the survey types of sites and ages of sites that are found within this TMA. That section also describes the Class III surveys conducted. The BLM prepared a Historic Property Treatment Plan which contains more information and examples on how the BLM applied mitigation measures rather than closures.

Topic	Comment Summary	BLM Response
	helpful in determining the comparative impact of the proposed route networks to cultural sites, especially where, as here, BLM has provided so little information about the potentially affected sites.	
Cultural Resources	<p>The BLM should clarify or update the EA to show what work was done without divulging sensitive Cultural sites and still allow the public to reasonably conclude the BLM is and has complied with the Section 106 process. In previous and other ongoing travel planning efforts, BLM has not redacted site types. Site types do not provide protected information about the location of sites, but do provide important information to help consulting parties understand the potential adverse effects to cultural sites. See, e.g., HRA, Inc. Conservation Archaeology, An Archaeological Survey of 1,936 Acres for the Trail Canyon Travel Management Area near Kanab, Kane County,</p> <p>Utah Archeological Report No. 17-11, Utah Project No. U17HQ0992 (May 2018). Discussing the different site types in detail with location information properly redacted.</p>	BLM provided the Historic Properties Treatment Plan and the Class II Survey protocol to consulting parties for Section 106 consultation, so they do not have to rely on the EA alone. However, BLM has updated 3.3.1.2 with more information about potential effects to cultural sites. BLM also updated section 4.1.1 with more information about how the BLM completed the section 106 requirements.
Cumulative Effects	The BLM must acknowledge the miles of routes closed by the wilderness designation and the resulting recreation displacement from those routes onto the remaining routes.	Regarding routes in the Wilderness designation, see footnote 12 on page 25.
Cumulative Effects	<p>The BLM should consider the following as cumulative losses of motorized opportunities:</p> <ul style="list-style-type: none"> <li>• 1970s-1980s: WSA designations closed 526,960 acres to motorized use.</li> <li>• 1983 Price River Management Framework Plan closed more acres to motorized use.</li> <li>• 1991: San Rafael RMP limited to existing and designated routes.</li> <li>• 2003 San Rafael Route Designation Plan: Closure of hundreds of miles.</li> <li>• 2008 RMP: Closed 606 miles of routes.</li> </ul>	<p>Wilderness study area acreage closures cannot meaningfully be compared to route closures because they are different units of measure. Due to the length of the WSAs existence, adding route closures from the WSA designations that occurred in the 1970s and 1980s would not add meaningful information for the decision maker.</p> <p>Due to the age of the 1983 Price River Management Framework Plan, the 1991 San Rafael RMP, and the 2003 San Rafael Route Designation Plan overlap, and since they were replaced by the 2008 Price RMP, including those decisions would not add meaningful information for the decision maker</p>

Topic	Comment Summary	BLM Response
		<p>The 375 miles of undesignated routes that were removed from the inventory are accounted for in Section 2.1.1.</p> <p>Regarding routes in the Wilderness designation, see footnote 12 on page 25.</p>
Cumulative Effects	<p>The cumulative impacts analysis is inadequate because BLM failed to quantify past Federal and State actions that closed roads, OHV trails, motorcycle single tracks, ways, and other travel routes on BLM, FS, NPS, State lands. The cumulative analysis area should include all of Utah, southern Idaho, western Colorado, and northern Arizona. The cumulative analyses should include the miles of travel routes recently closed in other BLM travel plans:</p> <ul style="list-style-type: none"> <li>• Labyrinth Rims/Gemini Bridges - 317.2 miles</li> <li>• Canyon Rims/Indian Creek - 46 miles</li> <li>• San Rafael Desert - 534 miles</li> </ul> <p>Reasonably foreseeable closures are probably coming in Henry Mountains/Fremont Gorge, Dolores River, Paunsaugunt, Dinosaur North, Book Cliffs, Nine Mile Canyon, Trail Canyon and other BLM and Forest Service actions in Utah and the surrounding states.</p> <p>The analysis also need to quantify closures of travel routes from older actions including:</p> <ul style="list-style-type: none"> <li>• Designation of Bears Ears National Monument</li> <li>• Designation of Grand Staircase - Escalante National Monument</li> <li>• Grand Canyon – Parashant National Monument</li> <li>• Lake Powell National Recreation Area</li> <li>• Grand Canyon National Park</li> <li>• Wilderness Study Areas in the project area</li> <li>• Wilderness Study Areas in Utah and the surrounding states</li> <li>• Wilderness areas on both BLM and Forest Service lands in Utah and Surrounding states.</li> <li>• Actions by SITLA and FFSL in Utah and similar agencies in the surrounding states.</li> </ul>	<p>Table 3-15 addresses the miles of routes opened and closed by the Labyrinth Rims/Gemini Bridges, Canyon Rims/Indian Creek, and San Rafael Desert TMPs.</p> <p>Section 3.2.1 acknowledges the foreseeable cumulative impacts of Henry Mountains/Fremont Gorge, Dolores River, Paunsaugunt, Dinosaur North, Book Cliffs, Nine Mile Canyon, and Trail Canyon.</p> <p>Bears Ears National Monument, Grand Staircase-Escalante National Monument, Grand Canyon-Parashant National Monument, Lake Powell National Recreation Area, Grand Canyon National Park, Wilderness Areas and Wilderness Study Areas in Utah and the surround states, and actions by SITLA, FFSL, and similar agencies in Utah and surrounding states are outside the analysis area. Including them in the analysis would dilute the impacts and would not change the conclusion.</p> <p>Regarding routes in the Wilderness designation, see footnote 12 on page 25.</p> <p>There are no Wilderness Study Areas in the TMA. However, information about Wilderness Study Areas was added to Table 1-4.</p>

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	Thousands of miles of roads, OHV routes, motorcycle singletracks have been closed by these past actions and a thorough cumulative analysis requires quantification of how the proposed alternatives will cumulatively add to these past impacts to travel routes.	
Cumulative Effects	The “Cumulative Impact Scenario” section provides a brief overview of the different types of projects BLM purports to consider as part of its cumulative effects analysis. Id. at 28-29. Then, for each resource, BLM outlines the Cumulative Impact Analysis Area (CIAA) and for most resources provides a sentence or two of what it labels as “analysis,” but which merely highlights the unsurprising fact that these actions, when viewed together, will have incremental impacts on the relevant resource value. See, e.g., EA at 49 (noting that “Alternatives B-D would add route-related impacts to vegetation where routes are newly designated for OHV use”). This approach violates NEPA.	As explained in the EA, Section 3.2 outlines past, present, and reasonably foreseeable future actions and trends in Emery County, Sevier County, plus the signed TMPs that have a relationship to potential resource effects associated with the alternatives. This section...provide[s] broad context [but]...The cumulative effects associated with the issues are then discussed on an issue-by-issue basis in Section 3.3. For example, the past, present, and reasonably foreseeable future actions are identified in section 3.2, then carried forward into each issue’s affected environment sections (identified by the number 3.3.X.1) and referenced in the cumulative effects subsections (identified by the number 3.3.X.2).
Cumulative Effects	Tables and discussions throughout the EA do not include acreage from the various identified past, present and reasonably foreseeable actions in addition to the alternative route networks and therefore do not provide any information about cumulative effects. Without more detailed information, BLM cannot meaningfully understand the cumulative effects of the alternative route networks.	Acreage is not always an appropriate or available impact indicator. Example 1: the cultural cumulative analysis, section 3.3.1.2, quantified sites to indicate impacts. Example 2: the lands with wilderness characteristics affected environment, section 3.3.2.1. quantified routes in the analysis area and the cumulative analysis, section 3.3.2.2, focused on vehicle-related noise impacts because none of the other cumulative actions from the cumulative scenario, section 3.2, were within the analysis area. Example 3: the evaluators of the vegetation section used a vegetation type dataset as well as specialist knowledge of the area to identify route-specific vegetation issues. Therefore, GIS calculation of acreage was not possible and vegetation impacts was estimated using miles of routes as an indicator and the magnitude of the impacts was estimated by comparing the miles across alternatives. However, each issue's affect environment section (all of which start with 3.3. and end with .1) list and enumerate the past, present, and foreseeable actions from Section 3.2 that influence that issue’s environment. Each issues cumulative section (at the end of each section that starts with 3.3. and end with .2) describes how the direct and indirect impacts of the alternatives interact with the past, present, and reasonably foreseeable actions using the resource-specific impact indicator.

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		The BLM updated the cumulative sections to better explain the cumulative analysis.
Cumulative Effects	<p>BLM did not properly identify a CIAA. A properly defined CIAA “is generally based on the natural boundaries of the resource affected, rather than jurisdictional boundaries.”</p> <p>BLM has failed to “identify the relevant ‘past, present, and reasonably foreseeable future actions,’ that might affect the environment in the area of the [proposed action].” Reasonably foreseeable actions include those that “have been publicly announced and at least some of their specifics known.”</p> <p>BLMs list of projects and associated acres of impact for resources is incomplete and underestimates the potential acres of impact. BLM should revise the CIAA for recreation to include the roughly 5,000 miles of designated routes on BLM-managed lands in the Price, Richfield and Moab field offices outside of the ongoing or completed TMPs or the approximate 2,500 miles of Forest Service system routes available for motorized use on Forest Service-managed lands within the exterior boundaries of the Price, Richfield and Moab field offices.</p> <p>Despite acknowledging that development of existing leases is reasonably foreseeable, BLM does not include this potential development in the predicted acres of impact, undercutting the potential cumulative effects from development of these leases. BLM similarly fails to adequately estimate potential areas of impact from development of locatable minerals.</p> <p>BLM does identify the number of valid mining claims in the CIAA nor those which can proceed under Notice-level operations. BLM does not explain (but should) what it believes makes a well or lease “relevant to the plan.</p>	<p>The cumulative impact analysis area for each issue is the same as the direct and indirect impacts analysis area, collectively called the “analysis area.” An analysis area is identified for each resource based on that resource's boundaries. By using the same analysis area for direct, indirect, and cumulative analysis, comparison and understanding of the impacts is improved.</p> <p>The past, present, and reasonably foreseeable future actions are identified in section 3.2, then carried forward into each issue’s affected environment section (identified by the number 3.3.X.1) and referenced in the cumulative effects subsections (identified by the number 3.3.X.2).</p> <p>The BLM has updated section 3.2 with the 2008 RMP Price, Moab, and Richfield travel plan data.</p> <p>The BLM has updated section 3.2.6 with additional mineral information. See also Table 3-1. The mineral information is cross referenced in each issue statement's affected environment (identified by the number 3.3.X.1) and environmental impacts cumulative effects subsections (identified by the number 3.3.X.2) as appropriate for that issue's analysis area.</p>
Cumulative Effects	The Cumulative Effects section misrepresents the mileage of routes open in Alternatives C and D because it did not consider the mileage removed during route inventory. Removal of 375 miles of	The 375 miles of undesignated routes that were excluded from all alternatives are accounted for in Section 2.1.1.

Topic	Comment Summary	BLM Response
	<p>routes from consideration during the 2023 route inventory were arbitrarily deemed to have no purpose and need.</p>	<p>The BLM also updated Section 2.1.1 to clarify how the TMP addresses the open areas where the 2008 RMP made no route designations.</p> <p>Regarding routes in the Wilderness designation, see footnote 12 on page 25.</p>
Cumulative Effects	<p>The BLM should disclose how many miles of routes in the Links Flat area were lost due to its management as an ISA/WSA.</p>	<p>The Dingell Act made Links Flat ISA part of the San Rafael Swell Recreation Area in 2019. It was released from wilderness study by the Dingell Act section 1234. Including miles of routes in Links Flat ISA would be double counting the No Action alternative because they were reflected in Alternative A.</p>
Designation Criteria	<p>The BLM's Alternative A should only include routes that have gone through the route designation process and that have documented designation criteria findings. BLM has failed to meet the designation in 43 CFR 8342.1 (d) for the additional OHV routes that will be designated in this TMP because the route inventory did not assess if routes in natural areas "adversely affect their natural, esthetic, scenic, or other values." BLM must go through a determination before considering additional routes available for OHV use and adding them to the travel network. BLM has failed to make that determination and cite these decisions. The BLM's route inventory should be revised as follows:</p> <ol style="list-style-type: none"> <li>1. Using GIS, identify in the 2024 travel management plan all the unauthorized routes based on a comparison with the 2008 OHV designation map. Share these results with the public. In the Wedge Overlook, here are a few of these unauthorized routes: SS3224, SS2325, SS3184, SS3178, SS3188, SS3189. SS3186, SS3024, SS3167, SS3153, SS3145, SS3123, SS3115.</li> <li>2. For routes that are not shown as authorized on the earlier map where possible, provide determination decision documents that show that these routes as meeting the required criteria and are authorized.</li> <li>3. For each unauthorized route, remove it from the Alternative A map which should reflect only those routes authorized for OHV use in past travel planning decisions. This would make the current</li> </ol>	<p>Alternative A reflects the 2024 situation, not the 2008 RMP. The BLM has updated the Alternative A description, Section 2.1.4, with additional information about its development including the inclusion of the Goodwater Rim Mountain Bike trail (see Good Water Rim Trail EA DOI-BLM-UT-G020-2020-0018-EA). BLM acknowledges in the EA that some of the routes being considered for designation in Alternatives B-D were not formally designated. BLM does not treat undesignated routes as OHV-open in the Alternative A (no action) unless there were subsequent designations (for example, see Good Water Rim Trail EA DOI-BLM-UT-G020-2020-0018-EA - which applies to the routes listed in the comment). The EA also clearly states that although OHV use has not been authorized on the undesignated routes, they have nonetheless been receiving use. Although these routes have not previously been designated for OHV use BLM still has the discretion to consider designating them at this time. Therefore, previously unauthorized routes included in Alternatives B-D were evaluated on a route-by-route basis to determine if these routes meet the required standards, and proposed for designation as OHV-Open, -Limited, or -Closed depending on the alternative.</p>

Topic	Comment Summary	BLM Response
	<p>OHV routes network consistent with land use plans and in compliance with the consistency and conformance legal requirements.</p> <p>4. Conduct an evaluation on a route-by-route basis to determine if these routes meet the required standards.</p> <p>5. For those that qualify and present little environmental harm, recommend an alternative that adds previously unauthorized routes as new routes in this travel plan.</p>	
Environmental Justice	<p>The BLM should:</p> <ul style="list-style-type: none"> <li>Identify communities within the geographic scope of the impact area that are living with EJ concerns, including the sources of data and a description of the methodology and criteria utilized. This should involve comparing percentages of low income and/or minority residents in the TMA to an appropriate reference community.</li> <li>Meaningfully engage any communities with EJ concerns with respect to the BLM's decisions on the proposed Project, and with Tribal Historic Preservation Officers if cultural or historical artifacts are or have been found in the TMA.</li> <li>Assess socioeconomic concerns for indigenous communities and communities with EJ concerns, including: <ul style="list-style-type: none"> <li>An assessment of historic, ongoing, and cumulative baseline environmental impacts, including health impacts from cumulative pollution loads, and identification of any already existing disproportionate impacts in these overburdened communities.</li> <li>A discussion of potential direct, indirect, and cumulative impacts of the proposed project and alternatives on the health of these communities, and identification of disproportionate and adverse impacts. This should involve comparing the</li> </ul> </li> </ul>	<p>The BLM clarified AIB-6 to show that the BLM relied on the EPA's EJScreen tool to identify EJ populations present in the TMA. The BLM also added to the analysis the comparisons of the percentages of those populations to the state of Utah's and the nation's populations percents and percentile. The administrative record for the EA contains the two major reports generated by EJScreen.</p> <p>Th BLM added information on disabled and language-challenged populations to AIB-6, although the EA was initiated well before recent guidance regarding these populations. However, the BLM has received no guidance as to reference thresholds for these last two populations.</p> <p>Regarding public engagement: information on public meetings, public scoping, public comment, and Tribal consultation is included in the EA Chapter 4.</p> <p>The EJScreen report shows that indigenous communities do not exist in the assessment area.</p> <p>AIB-1 addresses air quality impacts to human health.</p> <p>No mitigation plans have been put into effect, as BLM does not expect any disproportionate adverse impacts to identified EJ populations.</p>

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	<p>impacts to communities with EJ concerns to the impacts on the reference community.</p> <ul style="list-style-type: none"> <li>○ An evaluation of socioeconomic impacts, including the potential for additional burden on local communities' ability to provide necessary public services and amenities due to any projected increases in visitation to the TMA.</li> <li>○ Mitigation measures or alternatives to avoid or reduce any disproportionate adverse impacts. We recommend involving the affected communities in developing the measures.</li> <li>• Document the process used for community involvement and communication, including all measures to specifically address equitable community engagement and involvement of low-income and minority communities. Include an analysis of results achieved by reaching out to these populations.</li> </ul>	
Environmental Justice	<p>The BLM should use the EJScreen tool to help identify potential community vulnerabilities by calculating EJ indexes and displaying environmental and socioeconomic information in color-coded maps and standard data reports, focus EJ outreach efforts by identifying potential language barriers, meeting locations, tribal lands and indigenous areas and lack of broadband access. The BLM should consider the project to be in an area of potential EJ concern when the area shows one or more of the twelve EJ Indexes at or above the 80th percentile in the nation and/or state. However, scores under the 80th percentile should not be interpreted to mean there are definitively no EJ concerns present. The BLM should supplement the tool information with additional data and local knowledge to comply with EO 14096. BLM should also assess each block group within the TMA individually with a one-mile buffer around the TMA.</p>	<p>The BLM has edited the text to reference EJScreen, and to include the percentiles of the nation. None of the percentiles are at or above the 80th percentile. The administrative record for the EA contains the two major reports generated by EJScreen. There are no communities within the TMA, so the BLM did not assess census block groups within the TMA individually.</p>
Environmental Justice	<p>The BLM should include the percent of neighboring tribal populations that have mobility impairment. If the tribal population has mobility impairment, closing routes access cultural sites could</p>	<p>ACS data from the Census Bureau does not disclose disability status by tribal affiliation. However, AIB-6 has been updated to discuss impacts to persons with disabilities. Regardless of</p>

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	result in loss of access to those tribal members in violation of Executive Order 13007 and the American Indian Religious Freedom Act. BLM must disclose how maintaining routes as open to motorized use enables BLM to comply with these requirements.	disability, if a member of the public, including tribal members, needs access to a site that does not have motorized access, they could contact the BLM and we could grant them authorized access and potentially provide assistance. <del>Section 1.3 specifies that the TMP will not affect existing or future authorized users, such as tribal members accessing sacred sites.</del>
Environmental Justice	The BLM should further study Environmental Justice: specifically, how this plan would affect the local communities in Emery and Sevier counties, as well as the OHV community generally who would clearly bear a disproportionate share of the adverse consequences of this plan under alternatives B and C.	EJ populations do not include the totality of county populations, nor do they include the "OHV community." The commentor has a much broader definition of EJ than recent executive orders, CEQ or BLM guidance. Furthermore, the commentor provides no evidence that Emery and Carbon Counties well as OHV groups are suffering disproportionate adverse impacts. However, the BLM updated AIB-6 (Environmental Justice) to better cross reference the traffic counter data behind the visitor change assumption, which is summarized in Section 3.1 and detailed in Table 3-12. In addition, AIB-10's Table Appx-15 provides information on the marginal economic impact of fewer (or more) visitors to the TMA.
Environmental Justice	In compliance with the April 2022, Department of Interior Equity Action Plan, the BLM should use the TMP to reduce barriers to people with disabilities from loss of motorized access.	The BLM has updated AIB-6 (Environmental Justice) to address impacts to persons with disabilities. People with disabilities will still have meaningful access in the TMA and BLM is always open to making reasonable accommodations. The BLM is dedicated to ensuring that everyone has an equitable opportunity to access their public lands by providing access to facilities, programs, services, and activities for people with disabilities.
Environmental Justice	The BLM must consider the access needs of disabled users in the alternatives and ensure that people with disabilities who depend on motorized means do not lose access.	The BLM has updated AIB-6 (Environmental Justice) to address impacts to persons with disabilities. People with disabilities will still have meaningful access in the TMA and BLM is always open to making reasonable accommodations. The BLM is dedicated to ensuring that everyone has an equitable opportunity to access their public lands by providing access to facilities, programs, services, and activities for people with disabilities.
Greenhouse Gases	The EPA recommends the NEPA document include an analysis of how each alternative may increase or decrease GHG emissions through different route designations and their predicted effects on	The BLM's consideration of GHGs is consistent with the Council of Environmental Quality's Interim National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and

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	<p>OHV use in the TMA. The EPA disagrees with the assessment that “changes to designation of existing routes (OHV-Open, OHV-Limited or OHV-Closed) is unlikely to change the amount of vehicle miles traveled.”<sup>23</sup> Consequently, the EPA finds that the draft EA lacks information to conclude that GHG emissions would remain the same across all alternatives.<sup>24</sup> For example, OHV-limited designations on routes could be reasonably expected to modify the visitor miles of restricted vehicle types. Likewise, OHV users may select shorter routes or may not visit the TMA at all depending on route designations, which vary across alternatives. Predictions concerning these use patterns could be made based on survey data or on reasonable assumptions that are, in turn, based on BLM’s knowledge of OHV use patterns. Finally, more visitor miles could be reasonably anticipated if certain portions of the TMA are more easily accessible to OHV users, such as the Buckhorn/Wedge and Behind the Reef areas, which would be more accessible to OHV users under some alternatives than others. The EPA recommends revising the discussion to consider these realistic possibilities and their impacts on GHG emissions across each alternative. The EPA recommends incorporating any data collected since the initial project scoping period to inform these analyses and utilizing estimates or ranges if existing OHV use data are limited.</p>	<p>Climate Change, issued on January 9th, 2023. Sections 3.1 (Assumptions), 3.3.4.1 (Recreation), AIB-1 (Air Quality), AIB-2 (Greenhouse Gases), and AIB-10 (Socioeconomics) were updated to better cross reference the traffic counter data behind the visitor change assumption, which is summarized in Section 3.3.1 and detailed in Table 3-12. In addition, Table Appx-15 provides information on the marginal economic impact of fewer (or more) visitors to the TMA. Finally, Tables Appx-2 and Appx-3 were added to provide information on mobile source emissions by County. Based on data collected in the PFO and analogous data from adjacent land management units and agencies, there are no data to support assertions that the proposed route designations would substantively change visitation within the TMA.</p>
Lands/ Access	<p>If for any reason trust lands subject to the Dingell Act land exchange end up being retained by TLA, and if a route providing access to TLA lands is eliminated during this planning process, provisions should be made to allow for the reestablishment of access that was eliminated without requiring a comprehensive plan amendment.</p>	<p>The BLM will provide access to TLA lands consistent with applicable laws and regulations, including FLPMA and the federal court decision in State of Utah v. Andrus, 486 F. Supp. 995 (D. Utah 1979).</p>
Lands/ Access	<p>The BLM may need to provide more than one access route to state land due to topography.</p>	<p>The BLM will provide access to TLA lands consistent with applicable laws and regulations, including FLPMA and the federal court decision in State of Utah v. Andrus, 486 F. Supp. 995 (D. Utah 1979).</p>
Lands/ Access	<p>The BLM must provide access rights to state land to enable economic development of the land.</p>	<p>The BLM will provide access to TLA lands consistent with applicable laws and regulations, including FLPMA and the federal</p>

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		court decision in State of Utah v. Andrus, 486 F. Supp. 995 (D. Utah 1979).
Lands/ Access	The BLM must provide public access to state land to realize the lands' full economic value. A recent 3rd party appraisal of state lands identified a two-thirds reduction in the overall value of the property due to lack of access.	The BLM will provide access to TLA lands consistent with applicable laws and regulations, including FLPMA and the federal court decision in State of Utah v. Andrus, 486 F. Supp. 995 (D. Utah 1979).
Lands/ Access	The BLM should leave routes open to provide emergency vehicle access and economic benefit to nearby communities such as ranching and mining operations access.	Emergency access is excluded from the definition of an OHV under 43 CFR 8340.0-5, therefore emergency access is always permitted. See also RMP Decision TRC-18, as well as this EA's page 1 footnote 2, Table 1-4 (Fuels and Fire Management), and AIB-13.  Authorized use, such as permitted ranching and mining operation access, is also excluded from the definition of an OHV under 43 CFR 8340.0-5, therefore authorized access is also always allowed, as authorized. See also this EA's page 1 footnote 2, AIB-7, and AIB-15.
Lands/ Realty	The BLM must acknowledge and keep open the Emery County access easements that were granted before the Dingell Act Land Exchange. These include: 1) Muddy Creek Road (located on Trust Lands in Township 26 South, Range 9 East, Section 16); 2) Calf Canyon Road (located on Trust Lands in Township 20 South, Range 11 East, Section 2); and 3) Calf Mesa Road (located on Trust Lands in Township 20 South, Range 11 East, Section 32).	Per Public Law 116-9, March 12, 2019 (Dingell Act) section. 1255(b)(5), all parcels identified for exchange are subject to valid existing rights.
Livestock Grazing	Livestock permittees use the roads being closed to get access to range improvements that need regular checking like water lines, troughs and valves, as well as fences and mineral sites for the cattle. Livestock permittees also use the roads to access private land south of the last chance ranch and to access a diversion dam. The roads are also used for hunting. These roads should be left open.	Management activities carried out by livestock permittees would fall under authorized access (See the EA Section 1.3), which is an allowed use on routes designated as Closed, as authorized. Hunter access is not restricted, although motorized support of hunting activities is limited to designated routes.
Livestock Grazing	The BLM should ensure that routes to grazing allotments remain open to avoid challenges in accessing and managing livestock, and will lower the value of these allotments.	Management activities carried out by livestock permittees would fall under authorized access (See the EA Section 1.3), which is an allowed use on routes designated as Closed, as authorized.

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LWC	<p>BLM is relying on LWC inventories that failed to comply with BLM Manual 6310. BLM is not complying with the Settlement Agreement as a result. BLM should use the LWC areas identified in the Price RMP and minimize route designations based on those polygons.</p> <p>BLM failed to disclose that both alternatives C and D would significantly damage the appearance of naturalness, opportunities for solitude and opportunities for primitive unconfined recreation by opening new routes where motorized use has not been previously authorized. Under Alternative B, BLM would designate 25 miles of OHV routes in BLM-identified LWC. A meaningful reduction from the 91 miles currently designated. Alternatives C and D, on the other hand would substantially increase the miles of routes available for motorized use in LWC. Under Alternative D, BLM would go even further, designating 231 miles of routes in LWC. At least 140 miles of these routes are new routes, routes where motorized use was not previously authorized and, in many cases, is not occurring.</p> <p>Alternative B would reduce the miles of routes available for OHV use in BLM Natural Areas from 29.5 miles to 14 miles. Alternatives C and D, on the other hand, would significantly increase the mileage of routes available for motorized use in Natural Areas. Alternatives C and D would designate 41.8 miles and 46.5 miles, respectively. As with routes in LWC, Alternatives C and D would open new routes where motorized use has not been previously authorized.</p>	<p>LWC inventories are outside the scope of this EA. However, the BLM did follow BLM Manual 6310 to complete the inventories. Since the comment failed to describe which inventories are of concern and what the concern is, no further response is possible at this time.</p> <p>The EA Section 3.3.2.2 described the impacts to naturalness, solitude and primitive unconfined recreation from travel routes and OHV use. The subsequent route-specific tables analyzed the miles of routes as indicators of the impacts. The analysis was done at a wilderness characteristics unit level so the public could tell how the alternatives would change from the baseline situation. All routes evaluated currently exist on the ground, though use levels may be very low.</p> <p>The minimization criteria require BLM to designate routes in a manner that reduces impacts. Just because a route has not been designated in the past does not necessarily mean that designation of that route now is inconsistent with the minimization criteria when the network is considered as a whole</p>
Mapping	<p>The BLM should update the story map and interactive map and release them concurrent with the Final EA.</p>	<p>For the public comment period, the BLM chose not to update the 2021 interactive map in eplanning, the February 2024 preliminary alternatives map as they show to the public changes over time. The BLM will update all public facing maps, including the Story Map website, with the Decision.</p>
Minimization Criteria	<p>With regard to minimization criteria and how compliance was thought to be achieved, NEPA requires this process to be transparent. Rather than a transparent process with public</p>	<p>The BLM, the public, and the Settlement Agreement use the term "minimization criteria." However, their actional name is "Designation Criteria, per 43 CFR 8342.1. Therefore, the BLM</p>

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	engagement, the Proposal does not address minimization in its analysis at all. This silence is deeply problematic.	used the term "Designation Criteria" throughout the document. BLM has addressed the Designation Criteria in each route report, and in Appendices C and G. Minimization of impacts is also discussed in section 2.1.2, Chapter 3, Appendix A, Appendix C, and the route reports. Also, the BLM updated the Implementation Guide and each resource analysis to document actions that would be taken to minimize effects and user conflict. Finally, the EA shows how each alternative minimizes impacts to different degrees and the Decision discusses how the designated route network conforms with the designation criteria.
Minimization Criteria	Appendix C does not demonstrate and explain how BLM designated (1) individual routes and (2) the route network as a whole with the intention of minimizing impacts. It has not done so here.	The process used by the BLM to evaluate each route and propose alternative designations is described in the EA, Sections 2.1.2, 3.1.1, and Appendix G (as well as in specific analysis sections throughout the EA). Also, alternative route network considerations of multiple use, access, and resource protection are listed in sections 2.1.4 through 2.1.8. Also, the Route Reports show how each route was individually considered for each route network alternative, and shows what different resources were associated and considered before designating that route, and even has rationale statements for why it is open, limited, or closed for each alternative. Also, the BLM used the route network geographic areas (Appendix C) to better show how routes were considered on network levels. Also, the BLM updated the Implementation Guide and each resource analysis to document actions that would be taken to minimize effects and user conflict. The Decision Record also contains rationales for routes designations in the decision.
Minimization Criteria	<p>BLM does not demonstrate that it identified, considered and applied the Minimization Criteria on both a network-wide and route-by-route basis. Furthermore, routes must be located with the purpose of minimizing impacts to identified resources.</p> <p>The BLM summarizes the general process it used and the factors it considered in developing the various SRS travel plan alternatives. See EA at 20-21. But does not explain how it will apply that process to its proposed route designations in a way in which</p>	The process used by the BLM to evaluate each route and propose alternative designations is described in the EA, Sections 2.1.2, 3.1.1, and Appendix G (as well as in specific analysis sections throughout the EA). Also, alternative route network considerations were updated in sections 2.1.4 through 2.1.8. Also, the Route Reports show how each route was individually considered for each route network alternative, and shows what different resources were associated and considered before designating that route, and even has rationale statements for why it is open, limited, or closed for each alternative. Also, the BLM used the route network geographic

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	<p>satisfies the regulations’ substantive requirements that BLM locate routes to minimize impacts.</p> <p>BLM has not included in the EA nor the route reports any meaningful discussion of how it has applied the minimization criteria. With regard to route network, alternative-wide minimization, BLM relies on comparing the miles or number of routes designated in each alternative with particular resources. See generally EA Ch. 3 which does not demonstrate compliance with BLM’s substantive duty to minimize impacts on both a route-by-route and alternative-wide basis.</p> <p>BLM has not demonstrated that it is minimizing effects but instead compares number of routes or mileage of routes and choosing an alternative with less “mileage” of impact. For instance, routes that damage riparian areas and streams will cause significant impacts beyond what can be captured in a simple comparison of percentages of routes near a resource. Riparian areas are disproportionately important in dry lands. See Adam Switalski, Off-highway vehicle recreation in drylands: A literature review and recommendations for best management practices, <i>Journal of Outdoor Recreation and Tourism</i>, Vol. 21, 87-96 at 89 (2018) (attached); see also EA at 52 (Riparian areas “are among the most important, productive and diverse ecosystems in the state”). Even one route or small number of route mileage that damages a riparian area may have a disproportionate impact that cannot be captured through a comparison of miles of routes near a given resource.</p> <p>BLM has not captured route conditions in its comparative figures. See also EA at 92 (acknowledging routes that are eroded contribute more to total dissolved solid loading in riparian areas). BLM has simply compared the mileage of routes associated with a resource, instead of describing how its proposed route designations comply “with the objective of minimizing impacts.”<sup>3</sup> <i>Idaho Conservation League v. Guzman</i>, 766 F. Supp. 2d 1056, 1073 (D. Idaho 2011); <i>Wildlands CPR v. U.S. Forest Serv.</i>, 872 F. Supp. 2d 1064, 1082 (D. Mont. 2012).</p>	<p>areas (Appendix C) to better show how routes were considered on network levels. Also, the BLM updated the Implementation Guide and each resource analysis to document actions that would be taken to minimize effects and user conflict. The Decision Record also contains rationales for routes designations and explains how the designations were made for the purpose of minimizing impacts.</p>

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Minimization Criteria	Simply reducing the number and/or miles of routes and trails designated for off-road vehicle use is not evidence of compliance with the minimization criteria.	The EA shows how each alternative minimizes impacts to different degrees. The EA and Decision both discuss how BLM's route designations were guided not only by mileage considerations, but also by ensuring that the routes with the most resource conflicts were closed. By focusing on the effects of OHV use on routes, BLM's designated network conforms with the designation criteria.
Minimization Criteria	The relative <i>condition</i> of a particular route is an important aspect of understanding its impact on various resources. The condition of routes is not captured in BLM's comparative figures.	BLM agrees that the condition of routes is instrumental to understanding impacts. Section H-4 of the Implementation Guide (Appendix H) states, "The BLM will maintain the routes at an intensity level appropriate for the route. For example, the routes receiving the heaviest use are the routes subject to level 5 maintenance intensity." Table Appx-34 describes the various intensity levels. Appendix H was updated, and Table Appx-35 was added to show how the route class corresponds with the maintenance intensity, and how many miles of maintained and infrequently maintained roads exist in the route inventory. If BLM determines there is a need to change the character, class, and/or function of the route to manage for a higher use level, the BLM has the discretion to conduct that action into the future through the appropriate analysis process. Moreover, the Route Reports capture the condition and characteristics of each route, both of which were taken into consideration when proposing route designations.
Minimization Criteria/ Route-Specific	BLM should change the designation of the following additional routes or portions of routes to OHV Closed in Alt B (SS1316, SS1354, SS1380, SS1378, SS1492, SS2079, SS2766, SS4303, SS4265, SS4264, SS4263, SS4245, SS4242, SS4238, SS4237, SS4241, SS5051, SS4537, SS4071, SS6090, SS6068, SS6088, SS5208, SS5216, SS5209, SS3441, SS3499, SS3500, SS3501) to prevent unnecessary damage to natural and cultural resources, and also prevent conflict and to comply with the minimization criteria.	These routes were all individually reviewed. The alternatives address a range of impacts, so the requested changes were not made. However, the BLM prepared a Historic Properties Treatment Plan to address adverse effects to cultural resources.
NEPA Process	Closing routes will consolidate more people into fewer camping locations.  The BLM should follow the NEPA process including accepting public input, not being pre-decisional, and thoroughly analyzing the	Based on traffic counter data, the BLM does not anticipate that visitor use will change across the alternatives as described in Section 3.1.

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	effects to the natural and human environment including mitigation strategies.	The BLM is complying with all requirements for public participation (See EA Chapter 4).
Noise	<p>The BLM should include mitigation or an alternative that addresses the susceptibility of any nearby residential structures to noise pollution. Mitigation may include:</p> <ul style="list-style-type: none"> <li>Constructing noise barriers, such as berms or fences, between residential areas, and OHV routes when noise impacts are anticipated;</li> <li>Implementing needed restrictions on OHV use during nighttime hours;</li> <li>Providing educational materials to help nearby residences with sound abatement;</li> <li>Utilizing noise dampening and minimizing equipment (e.g., mufflers), technology, and engines whenever possible for route maintenance equipment; and</li> <li>Providing follow-up monitoring to ensure that noise pollution standards are not exceeded.</li> </ul>	The TMA does not contain substantial urban interfaces that would necessitate further consideration of noise impacts on residential structures. Therefore, most of the suggested measures are not necessary. However, the BLM did update the Implementation Guide with the following measure: Utilizing noise dampening and minimizing equipment (e.g., mufflers), technology, and engines whenever possible for route maintenance equipment.
Noise	The BLM should include a quantitative analysis of noise pollution under each alternative. The BLM should consider estimating the noise exposure levels in the total area, area within a buffer distance from residential areas, campgrounds, non-motorized trails, and other facilities. If OHV data is unavailable for these areas, the BLM should use a conservative assumption that every OHV-open or -limited route will be frequented by visitors. The BLM should distinguish between the noise produced by 2-stroke and 4-stroke engines, noise exposure at different distances from OHVs (e.g., operator versus other exposure levels), and noise produced by OHVs travelling at different speeds.	Section A.17 in Appendix A of the EA analyzes noise impacts in the TMA. The BLM has determined that a more detailed analysis that relies on extensive assumptions would not help make a reasoned choice among alternatives. Additionally, the TMA does not contain substantial urban interfaces that would necessitate further consideration of noise impacts on residential structures.
Planning	The BLM should finish the RMP Amendments before finalizing the TMP because the RMP Amendments will inform how travel management should work in the Dingell Act designation areas and may be useful to offset lost opportunities in other areas, such as managing "the Recreation Area in a manner that educates the public	The BLM added an alternative considered but dismissed regarding awaiting the RMP Amendment. See Section 2.1.15.

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	about Cold War and historic uranium mine sites in the Recreation Area" and making OHV area decisions for the released WSA lands.	
Planning	<p>"The State of Utah's resource management plan (SRMP) has the following policies, objectives, and provisions related to public land access:</p> <ul style="list-style-type: none"> <li>• Protect traditional and cultural access to public lands.</li> <li>• Maintain access to all R.S. 2477, Class B, and Class D roads and pursue judicial recognition of vested interests and rights through the Quiet Title Act and other legal means.</li> <li>• Strategically expand access to state, School and Institutional Trust Lands Administration (SITLA), and federal lands to increase the value and enjoyment of parcels.</li> <li>• Identify dedicated easements by each county and locally protect them to maintain access.</li> <li>• Preserve traditional access roads and trails serving mines and other historical uses, in current and future national monuments, and incorporate them into travel-management plans and land-use plans." </li></ul>	The BLM added information about the State Plan to Table 1-3 regarding this comment.
Planning	The designation criteria do not require route closures to minimize impacts. Other minimization measures include mitigation and reroutes.	The range of alternatives analyzed in the EA address the resource issues identified on OHV-Open and OHV-Limited routes through the measures included in the Implementation Guide, Appendix H.
Planning	The Emery County Resource Management Plan specifically states "The County opposes administrative limitation of access to public lands through road or trail closures, decommissioning, and other limiting policies that are not consistent with agency land use plans or county plans. Continuation of existing uses and patterns should be maintained unless reliable, Emery County specific, scientific evidence compels the agency to change those uses." Further, Emery County's plan states that its position is that "vehicle access will be provided to all historically used campsites[.]"	The BLM added information about the County Plan to Table 1-3 regarding this comment.
Planning	Route closures within the Recreation Area could only be reversed through an act of Congress as per Section 1222(d). Because of the	The Dingell Act 1222(d) states "(1) MOTORIZED VEHICLES.— Except as needed for emergency response or administrative purposes, the use of motorized vehicles in the Recreation Area shall

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	potentially permanent nature of any closures within the Recreation Area, the BLM must disclose the effects in greater detail.	<p>be permitted only on roads and motorized routes designated in the Management Plan for the use of motorized vehicles.</p> <p>(2) NEW ROADS.—No new permanent or temporary roads or other motorized vehicle routes shall be constructed within the Recreation Area after the date of enactment of this Act.</p> <p>(3) EXISTING ROADS.—</p> <p>(A) IN GENERAL.—Necessary maintenance or repairs to existing roads designated in the Management Plan for the use of motorized vehicles, including necessary repairs to keep existing roads free of debris or other safety hazards, shall be permitted after the date of enactment of this Act, consistent with the requirements of this section.</p> <p>(B) EFFECT.—Nothing in this subsection prevents the Secretary from rerouting an existing road or trail to protect Recreation Area resources from degradation or to protect public safety, as determined to be appropriate by the Secretary."</p> <p>This section gives the Secretary the ability to designate and manage existing routes within the Recreation Area as necessary.</p> <p>The analysis for the Recreation Area has been revised to include route specific information. See EA, Appendix A, Section AIB-4 (San Rafael Swell Recreation Area).</p>
Planning	The BLM should acknowledge that the closure of routes will have a negative impact on Emery County. The BLM should not close routes just because the area is large and difficult to manage- that is a BLM internal issue and should not impact the public and access to our public lands.	The social and economic impacts of trail designation are disclosed in AIB-10 (Socioeconomics). Closures consider many resource impacts, user conflicts, and other concerns. Specific route rationale statements can be found in Appendix C, Appendix G, and the decision record table. The Implementation Guide, Appendix H, lists the BLM's management measures for the OHV-Open and OHV-Limited routes.
Planning	The BLM should ensure the TMP is consistent with the revised sage-grouse RMP, if it is finalized prior to the TMP.	The final GRSG RMP is not available yet. Therefore, we did not make changes to the EA as a result of this comment.

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Planning	The BLM should provide additional motorized opportunities in released WSAs.	This comment is outside the scope of this EA, as described in Section 1.2. The released WSAs are OHV-Closed areas. Allowing motorized opportunities in OHV-Closed would require an RMP Amendment in accordance with BLM Handbook 8342 Section IV.C which states "The OHV area designations are land use allocations that must be determined in the RMP and classified as open, limited or closed to motorized travel." This TMP conforms with and does not amend the RMP.
Planning	The BLM should correct their references to Executive Orders 14008 and 14072. EO14008 specifically addresses the requirement of expanding recreational access and economic benefits. EO14072 is about forest management.	<p>BLM will comply with all EOs, as applicable.</p> <p>E.O. 14008 Section 214 discusses administration policy with regard to public land conservation, and Section 215 creates a mandate for the Secretary of the Interior to develop a strategy to among other things, "improve access to recreation." This mandate is for the Secretary of the Interior to create a strategic plan, it doesn't dictate outcomes of specific Travel Management Planning. E.O. 14008 Section 219 calls for agencies to ensure that environmental and economic justice are a part of missions, policies, programs, and activities through the incorporations of E.O. 12898 and the amendment to E.O.12898 found in E.O. 14008 Section 210. Environmental justice has been addressed in AIB-6 and economics has been addressed in AIB-10. E.O. 14008 Section 204 calls for aligning the management of public lands and waters to support robust climate action. The BLM analyzed Greenhouse Gas and Climate Change in AIB-2 in the EA.</p> <p>E.O. 14057 makes it policy of the United States that the Federal Government leads by example to achieve a carbon pollution-free electricity sector by 2035 and net-zero emissions economy-wide by no later than 2050. These are high-level strategy requirements. There are no specific requirements for public land management, recreation, or travel planning for public OHV use.</p>
Planning	The BLM should complete a full inventory of routes in the TMA.	BLM developed the route inventory as described in Section 2.1.1. The BLM updated Section 2.1.1 with additional information about the formation of the TMA inventory. See footnote 1. This process included the county's data and maps. The public had an opportunity

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		to identify routes missing from the inventory during the public periods. Any routes missing at this late stage in the process will have to be addressed in a different document. For example, the BLM knows that additional route planning will be necessary for the routes to be acquired in the Dingell Act land exchange (see Section 1.3 and Table 1-4 Lands and Access).
Planning	<p>The BLM should include a monitoring and compliance plan including:</p> <ul style="list-style-type: none"> <li>• inspection schedules,</li> <li>• documentation procedures,</li> <li>• accountability processes,</li> <li>• A description of the required mitigation and its expected effectiveness;</li> <li>• Designation of the entity responsible for implementing the mitigation;</li> <li>• A detailed plan for monitoring of the mitigation measures with specific temporal milestones to ensure timely and correct implementation, effectiveness in mitigating adverse effects, as well as timely maintenance; and</li> <li>• Identification of funding sources.</li> </ul>	<p>Monitoring and compliance plans are a requirement of the 2024 NEPA Regulations (40 CFR 1505.3(c)). The TMP was started under the 202 NEPA regulations that does not have this requirement. However, the Implementation Guide outlines the TMP monitoring objectives, priorities, schedules, responsibilities, protocols, and methodologies as directed by the 2008 Price RMP and the 2008 Richfield RMP (Table Appx-38).</p>
Planning	<p>The BLM has failed to meet their commitment as per the RMP “[t]o reduce road density, maintain connectivity, and reduce habitat fragmentation, continue to require reclamation of redundant road systems or roads that no longer serve their intended purpose.” by significantly increasing habitat fragmentation throughout the San Rafael Swell TMA. Compare EA Map 2 with EA Map 4 (adding 273 miles of new route designations throughout the TMA, increasing density throughout but especially in the Molen Reef area) and EA Map 5 (adding 678 miles of new route designations, increasing route density and habitat fragmentation throughout the EA).</p>	<p>The BLM is only considering designation of routes that exist on the ground (See Section 1.2 and Table 1-2 TRV-4), so no new route-caused habitat fragmentation or increased route density will occur under any alternative. The alternatives only change which routes are available for use by the public. The network alternatives also addressed redundant routes and those that no longer serve their intended purpose.</p>
Planning	<p>The BLM should describe the process used to develop Alternative A, and the management year it reflects, because it reflects decisions</p>	<p>The BLM has updated the Alternative A description, Section 2.1.4, with additional information about its development including</p>

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	<p>that have been made without public input and engagement on issues critical to the TMP baseline. For example, the 2008 RMP left out of the Proposed RMP/Final EIS Preferred Alternative the Chimney Rock/Summerville/Humburg Trail System. Also, the 2008 RMP included five WSAs with motorized opportunities within them, but the TMP says no WSAs are present and instead acknowledges the 2019 Wilderness Areas without describing the lost motorized opportunities. Also, Alternative A does not reflect the 2008 RMP's TMP baseline map, or address the open areas that did not receive route designations. Finally, the 2008 RMP predated e-bikes, but Alternative A includes a limited to bikes including e-bikes route.</p>	<p>additional information about the influence of the Dingell Act and the inclusion of the Goodwater Rim Mountain Bike trail.</p> <p>The Chimney Rock/Summerville/Humburg Trail System was included in the 2008 RMP's TMP. See the RMP/ROD pages 26 and 36 and Decision Rec-70, and was therefore included in Alternative A.</p> <p>In 2019, the Dingell Act Section 1231 converted the majority of the WSAs in the TMA to Wilderness Areas, and Section 1234 released the rest of the WSAs from further wilderness study. Therefore, there are no WSAs in the TMA. WSAs have been added to Table 1-4 in Chapter 1.</p> <p>The BLM updated Section 2.1.1 to clarify how the TMP addresses the open areas where the 2008 RMP made no route designations.</p> <p>Regarding routes in the Wilderness designation, see footnote 12 on page 25.</p>
Planning	<p>It is important to keep all routes open that access Cold War Era historic sites.</p>	<p>The range of alternatives analyzed in the EA explore varying combinations of OHV-Open, -Limited, and -Closed routes to determine the degree of access vs protection needed to preserve historic sites such as Cold War sites. The BLM has updated AIB-4 to better disclose the miles of routes within the recreation area that have cultural or historical values across the alternatives.</p>
Planning	<p>The Dingell Act designated roughly half of the San Rafael Swell to be wilderness and the other half [the Recreation Area] to be very accessible. The BLM must preserve the balance inherent to this compromise legislation.</p>	<p>The BLM updated both AIB-4 (San Rafael Swell Recreation Area) and AIB-5 (Wilderness Areas) based on public comment.</p>
Planning	<p>The Emery County General plan states that Emery County will “support multiple use management by the BLM and USFS in their properly adopted management plans.”</p>	<p>The BLM added information about the County Plan to Table 1-3 regarding this comment. This TMP supports and is consistent with multiple use management.</p>
Planning	<p>As required by FLPMA, the BLM's inventories, planning, and management activities (in this case the TMP) should be coordinated with the planning and management programs of other Federal departments, agencies, States, Tribes, and local governments (such</p>	<p>Section 202 of FLPMA and the BLM's planning regulations in 43 C.F.R. § 1610.3-2 describe how land use planning decisions “shall be consistent with officially approved or adopted resource related plans, and the policies and programs contained therein” of State and</p>

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	as counties), considering the policies of approved State and Tribal land resource management programs. The BLM must resolve inconsistencies between Federal and non-Federal government plans to the extent practical, and provide for meaningful public involvement of State and local government officials in the development of land use programs, land use regulations, and land use decisions for public lands. Also, land use plans of the Secretary under this section shall be consistent with State and local plans to the maximum extent [the Secretary] finds consistent with Federal law and the purposes of this Act.”	local governments and Indian Tribes “so long as the guidance and resource management plans [of the State and local government and Tribe] are also consistent with the purposes, policies, and programs of Federal laws and regulations applicable to public lands.” 43 C.F.R. § 1610.3-2(a). . This is an implementation level plan that is not subject to consistency obligations. Regardless, the BLM considered the relationship of the TMP to the state and county plans as explained in Table 1-3 of the EA.  The BLM also updated the information about the public and agency involvement efforts in Chapter 4.
Planning	Both Alternatives B and D appear to violate the States's management plan because of the following closures: RS2477 roads, state trust parcels access roads, dedicated Emery County easements, and traditional access. The BLM should make these alternatives consistent with the State's management plan. The BLM should select a preferred alternative that is consistent with the State's management plan.	The BLM updated Table 1-3 regarding the State's and County's plan and R.S. 2477.
Planning	The BLM should comply with Executive Order 11644 that directs agencies to: “minimize damage to soil, watershed, vegetation, or other resources,” “minimize harassment of wildlife or significant disruption of wildlife habitats,” and “minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands.”	The relationship of the TMP to E.O. 11644 is addressed in Table 1-3 of the EA. Minimization of impacts is discussed in section 2.1.2, Chapter 3, Appendix A, Appendix C, and the route reports. Also, the BLM updated the Implementation Guide and each resource analysis to document actions that would be taken to minimize effects and user conflict.
Planning	The State demands a Governor's Consistency Review as required by FLPMA.	FLPMA 43 U.S.C. 1721 C(1) requires coordination with state and local governments on land use planning and program level efforts. Travel management plans are not land use plans nor programmatic documents. Therefore, BLM is not obligated to engage in Governor's Consistency review for this decision.
Process	The BLM must demonstrate and explain how it designated (1) individual routes and (2) the route network as a whole with the intention of minimizing impacts. The Alternatives descriptions and Appendix C do not meet this requirement. The relative condition of a route is important to understand its impacts.	BLM has included additional explanation of how it developed the network alternatives with the intention of minimizing impacts to resources. Specifically, the BLM has updated 2.1.4. through 2.1.8, the alternatives descriptions, as well as Appendix C and the Implementation Guide regarding the minimization of impacts.

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		Route specific minimization of impacts are addressed in the route reports. The route condition is documented in the route form.
Process	The BLM's analysis did not take into consideration the Special Provision in Section 4(d)(1) of the Wilderness Act of 1964, which states that "...within wilderness areas designated by this Act the use of aircraft or motorboats, where these uses have already become established, may be permitted to continue subject to such restrictions as the Secretary of Agriculture deems desirable." It is requested that the Draft San Rafael Swell TMP EA reflect the Special Provision in Section 4(d)(1) in the Wilderness Act of 1964 with respect to the Mexican Mountain Airstrip.	Identification of established uses within Wilderness Areas is outside the scope of this NEPA document (See Section 1.2). The Mexican Mountain Airstrip established use would have to be verified before BLM could make an OHV-Open or -Limited travel management designation following a separate NEPA analysis.
Public Health and Safety	The BLM should leave routes open to provide emergency vehicle access and economic benefit to nearby communities such as ranching and mining operations access.	<p>Military, fire, emergency, or law enforcement vehicles being used for emergency purposes are excluded from the definition of an OHV under 43 CFR 8340.0-5, therefore emergency access is always permitted. See also RMP Decision TRC-18, as well as Section 1.1 (footnote 2), Table 1-4 (Fuels and Fire Management), and Appendix A: AIB-13.</p> <p>Vehicle use expressly authorized by the authorized officer or otherwise officially approved, such as permitted ranching and mining operation access, is also excluded from the definition of an OHV under 43 CFR 8340.0-5, therefore route designations in this TMP do not affect use consistent with authorizations nor do they impact opportunities for future authorizations (i.e. rights-of-way). See EA, Section 1.1 (footnote 2), Appendix A: AIB-7, and AIB-15.</p>
R.S. 2477	The BLM should leave all R.S. 2477 roads as is until there is a judicial resolution of the Quiet Title actions. Closures of these asserted R.S. 2477 roads will directly interfere with the State's and counties' prosecution of the pending cases including traveling of the road by the state and counties with witnesses when conducting discovery for the lawsuits.	BLM acknowledges the State and Counties have R.S. 2477 assertions within in the TMA and have brought legal action pertaining to these assertions under the Quiet Title Act (QTA). Where action is pending under the QTA, "[t]he United States shall not be disturbed in possession or control of any real property involved in any action . . . Pending a final judgement or decree, the conclusion of any appeal therefrom, and [for] sixty days [thereafter]." 28 USC 2409a(b). The State and Counties are currently conducting QTA litigation discovery on routes designated OHV-closed under TMPs.

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R.S. 2477	The BLM should leave all R.S. 2477 roads as is until there is a judicial resolution of the Quiet Title actions. The BLM should leave open access to State lands.	BLM acknowledges the State and Counties have R.S. 2477 assertions within in the TMA and have brought legal action pertaining to these assertions under the Quiet Title Act (QTA). Where action is pending under the QTA, “[t]he United States shall not be disturbed in possession or control of any real property involved in any action . . . Pending a final judgement or decree, the conclusion of any appeal therefrom, and [for] sixty days [thereafter].” 28 USC 2409a(b). As explained in Section 1.3, BLM will work with TLA and its permittees to authorize access to TLA lands consistent with applicable laws.
Recreation	The BLM should disclose how many miles of routes in wilderness were lost and therefore removed from the Alternative A map, and where the lost routes are located.	Regarding routes in the Wilderness designation, see footnote 12 on page 25.
Recreation	The BLM should allow dispersed camping and photography on routes SS2039, SS2044, SS3224, and SS3225 and location 39.08700, -110.805722039.	The range of alternatives analyzed in the EA explore varying combinations of OHV-Open, -Limited, and -Closed routes to explore a range of motorized access to recreation. Recreational activities such as dispersed camping and photography are allowed along all designated routes pursuant to the PFO RMP. The BLM reviewed the information provided for these routes and updated the route reports as necessary. Dispersed camping access was cited in route evaluations and is addressed directly in Section 3.3.4.2 for each alternative and under Cumulative Effects.
Recreation	The BLM should provide documentation that supports the statement that closing routes to OHVs enhances the experience for non-motorized users. For example, in Buckhorn/Wedge, “Closing 2.6 miles of route along the Good Water Rim Trail would remove vehicular access to two points overlooking Good Water Canyon, reduce motor vehicle touring opportunities, and enhance the experiences of mountain bikers and e-bikers, as they would not be exposed to the noise and dust of motorized vehicles.”	See the following documents cited in Section 3.3.4.1 regarding conflict between motorized and non-motorized users and/or objectives of each user which, if not attained, could result in user conflict as defined in Section 3.3.4.1 (Jacob and Schreyer 1980): Shilling et al. 2012, Kil et al. 2012, Ansari 2008, Allen 2019, Schneider et al. 2013, Chavez et al. 1993, Campbell et al. 2021). Pursuant to 43 CFR 8342.2(c) as discussed in the same section, the BLM is required to minimize conflicts between OHVs and other existing uses. Considering the existing uses (including the visitation levels of mountain bikers at the Wedge), the scarcity of maintained non-motorized trails in the TMA, the availability of other primitive routes in the Wedge network area, and the dual benefits that

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		motorized vehicle closure has for both mountain bikers and non-motorized, nonmechanized recreationists, the BLM prioritized non-motorized users at this particular location.
Recreation	The BLM must address how the TMP conforms to the San Rafael SRMA and RMZ areas management required by the RMP.	Recreation decisions with the RMP such as management objectives, dispersed camping, and motorized recreation will continue to be implemented. The RMP decision, and all associated rules, remain the same and their modification is outside of the scope of the Travel Management Plan. While there currently is no activity-level plan for the SRMA, decisions and prescriptions related to RMZ administration, infrastructure development, SRPs, and desired outcomes (see REC-3, 4, and 8; REC-9, 10, and 11, REC 12-14, REC 45-55, REC-67-71, REC 72-78, Appendix R-9, and Appendix R-10).
Recreation	The BLM should acknowledge that camping has grown since 2019. The Dyrts 2023 camping report cited that 80 million Americans went camping in 2022 and that campsites were nearly twice as scarce as they were in 2021 ( <a href="https://thedyrt.com/press/the-dyrts-2024-camping-report-presented-by-the-all-new-toyota-tacoma/">https://thedyrt.com/press/the-dyrts-2024-camping-report-presented-by-the-all-new-toyota-tacoma/</a> ).	After reviewing the cited study, the BLM did not include it in the visitor use report added in Appendix D due to a lack of clarity in survey and analysis methodology as well as the report's blanket consideration of private and commercial camping across the country (which may not be analogous to the recreation setting of the analysis area). For matters of camping trends and demand within the TMA, the preferred sources are quantitative visitation counting within the TMA followed by analogous data collected from other agencies. Survey data are incorporated only where the risk of sampling bias is low and extrapolations are minimized.
Recreation	The BLM has manipulated the planning process to close areas that were restricted to existing routes only and identified for future site-specific planning. The failure to address these basic changes in a systemic and rational manner will result in immense new user conflicts in the planning area. After review of the Proposal, we are unable to locate any portion of the Proposal that outlines challenges such as user conflicts or how they could be impacted by the various Congressional efforts impacting the planning area or how the Proposal seeks to reduce these conflicts.	The BLM cannot change area designations without an RMP Amendment. In the TMP the BLM does not propose to close any OHV-limited areas but it does contain the site-specific planning prescribed by OHV-7 (see Section 1.5). Route-specific user conflicts, and how they would be mitigated by each alternative, are addressed in individual route reports posted on ePlanning. Please refer to Section 3.3.4.1 for detailed discussion of the definition, types, and origins of user conflict overall and for individual user groups and to Sections 3.3.4.2 and 3.3.4.3 for the social impacts of each alternative, including implications for user conflict.

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Recreation	The BLM should recognize that different user groups have different needs and expectations when visiting the area, and any reduction could both concentrate public use and potentially increase the potential for user conflicts. The loss of single-track riding opportunities is an ongoing issue nationwide.	The range of alternatives analyzed in the EA explore varying combinations of OHV-Open, -Limited, and -Closed routes to explore a range of OHV opportunities including single track. Cumulative impacts of each alternative on OHV riding opportunities within the cumulative impacts area of Emery, Grand, and Sevier counties are presented in Section 3.3.4.2. See tables REC-2 and REC-3 for a breakdown by vehicle width. These impacts were considered in the development of Alternative E (preferred alternative). The lack of route reduction in the TMA's highest-use areas, as identified by the visitor use data provided in Appendix D, contradicts the speculation that route closures outside of these high-use areas would result in concentration of public use to the point of user conflicts.
Recreation	The BLM should disclose how the TMP route designations will affected permitting of organized events, with their associated tourism and economic benefit to local communities.	Under 43 CFR 8340.0-5(a), authorized users, including special recreation permit holders, are not included under OHV regulations (43 CFR 8340 et seq.). Consequently, event itineraries are not confined to routes designated by the TMP and alternative routes may be considered on a project-level basis during the application process and associated NEPA. Route maintenance to facilitate SRP-related access can also be considered. See the portion of section 1.3 which discusses authorized users. Similarly, authorizing Special Recreation Permits for organized events are outside the scope of this EA.  BLM acknowledges the importance of tourism to local economies in AIB-10 (Socioeconomics). In the same section, BLM acknowledges the types of experiences to which the commentor refers. See the discussion of nonmarket values.
Recreation	The BLM should include a monitoring and compliance plan including: <ul style="list-style-type: none"> <li>inspection schedules,</li> <li>documentation procedures,</li> <li>accountability processes,</li> <li>A description of the required mitigation and its expected effectiveness;</li> </ul>	Monitoring and compliance plans are a requirement of the 2024 NEPA Regulations (40 CFR 1505.3(c)). The TMP was started under the 2020 NEPA regulations that does not have this requirement. Regardless, the Implementation Guide outlines the TMP monitoring objectives, priorities, schedules, responsibilities, protocols, and methodologies as directed by the 2008 Price RMP and the 2008 Richfield RMP (Table Appx-38).

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	<ul style="list-style-type: none"> <li>• Designation of the entity responsible for implementing the mitigation;</li> <li>• A detailed plan for monitoring of the mitigation measures with specific temporal milestones to ensure timely and correct implementation, effectiveness in mitigating adverse effects, as well as timely maintenance; and</li> <li>• Identification of funding sources.</li> </ul>	
Recreation	The BLM should disclose in all alternatives the impacts resulting from concentrating users on routes open or limited to OHV use, including impacts from concentrating and displacing dispersed camping.	As discussed in Section 3.1, and per the data in section 3.3.4.1 and Table 3-12, because the five most popular recreation opportunities in the RMZs account for 41.5% of the recreation to the TMA, even though the alternatives would change the route networks available for motorized recreation opportunities, they would not meaningfully change visitation to these popular areas nor would they result in visitor use being distributed differently across the TMA. Sections 3.1 (Assumptions), 3.3.4.1 (Recreation), AIB-1 (Air Quality), AIB-2 (Greenhouse Gases), AIB-6 (Environmental Justice), AIB-10 (Socioeconomics), and AIB-18 (Big Game and Upland Game) were updated to better cross reference the traffic counter data behind the visitor change assumption, which is summarized in Section 3.1 and detailed in Table 3-12.
Recreation	<p>The BLM should disclose the baseline for user conflicts in the TMP, including those which are currently occurring, their scale, and the degree to which they are or can be addressed by different management actions.</p> <p>The BLM should consider the following studies (block quotes provided in comments): "Social Values versus Interpersonal Conflict among Hikers and Mountain Bikers" (Carothers et al. 2001); "Conflict attributed to snowmobiles in a sample of backcountry, non-motorized yurt users in the Wasatch-Cache National Forest" (Norling et al, 2009).</p>	<p>Regarding the baseline, please refer to the individual route evaluation sheets for the baseline of routes where user conflict could occur. See section 3.3.4 which analyzed in detail inter-group conflict such as motorized vs motorized and intra-group conflict such as motorized vs non-motorized. See also AIB-4, AIB-5, AIB-6, AIB-7, AIB-13, and AIB-15 which analyzed various types of user conflicts in brief.</p> <p>The BLM reviewed the provided sources. The BLM decided to rely on the high-quality, peer-reviewed sources already cited in Section 3.3.4.1. Carothers et al. 2001 specifically analyzed user conflict between mountain bikers and hikers; as the TMP is regarding motorized travel route designation, the findings were not relevant to analyzing user conflicts between motorized users or between motorized and non-motorized users. Similarly, the recreational setting of Norling et al. 2009 is backcountry winter recreation,</p>

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		<p>where neither motorized nor non-motorized travel is restricted to designated motor vehicle routes. Until the similarities and differences between user expectations and norms in open winter areas versus route-based desert settings is better understood, the findings of the reference are considered but ultimately not considered applicable. Moreover, outside of several select areas such as Good Water Rim and the nearby roads, the predominant user conflict potential for the TMP is conflict between motorists which could be alleviated by limiting routes by vehicle type or width; refer to individual route evaluations for where and why conflicts were considered. Conflicts between motorized user groups are not addressed by either study, nor is the BLM considering a zoning approach or other restrictions on recreation which is not confined to designated routes (non-motorized recreation).</p>
Recreation	<p>The EA states that width restrictions in Alternative C will “reduce user conflict.” However, the route reports do not show user conflict on individual routes. If the BLM is not indicating user conflict on route reports, then the BLM should not be basing decisions off the premise that closures would reduce user conflict if there’s not documented user conflict to begin with.</p>	<p>Potential for user conflict and benefits of width restrictions were noted as pertinent during route evaluations, predominantly on routes which were considered for limited designation in one or more alternatives. Examples of trails where user conflict between motorists was cited include SS4264 (Behind-the-Reef Trail), SS1533 (Jump Trail), SS4562, SS5208, and SS4252 (Hidden Splendor airstrip). In analysis, the BLM prioritizes current scientific literature regarding user conflict to analyze conflict between user groups and sub-groups. Route width restrictions vary across alternatives to provide a range of conflict outcomes. Under 43 CFR 8342.2(c), "Areas and trails shall be located to minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands, and to ensure the compatibility of such uses with existing conditions in populated areas, taking into account noise and other factors."</p>
Recreation	<p>The EA at page 32 cites a study that discusses vandalism as it relates to motorized trails. However, it does not discuss vandalism as it relates to non-motorized trails. The BLM needs to add information regarding vandalism relating to non-motorized trails.</p>	<p>The BLM updated an assumption in section 3.1 to state that failure to follow regulations protecting cultural sites is subject to law enforcement regardless of alternative. The line in 3.3.1.2 that discusses vandalism is not specific to motorized trails. It is specific to public access, so the BLM removed the word "easy." Concerns</p>

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		regarding vandalism in non-motorized areas may be reported directly to the BLM.
Recreation	The BLM should continue to allow motorized access to the trails system surrounding Reds Canyon and accessing Family Butte. These include: SS4074, SS4064, SS4106, SS4100, SS410, SS4103, SS4114, SS4072, SS4068, SS4115, SS4116, SS4150, SS4149, SS4096, SS4066, SS4125, SS4095, SS4097, SS4554, SS4553, SS4542, SS4540, SS4156, SS4154, SS411, SS4575, SS4576, SS4581, SS4171, SS4172, SS4178, SS4177, and SS418. The need for these routes is the extraordinary scenic values, small vegetation risk, excellent camping experience, and historical features associated with the mining history of Emery County.	The range of alternatives analyzed in the EA explore varying combinations of OHV-Open, -Limited, and -Closed routes to explore a range of motorized opportunities including single track. Devil's Racetrack is open under all alternatives (refer to "Common to All Alternatives" section within 3.3.4.2). Appendix A.10 AIB-10 for brief analysis of socioeconomic impacts of the TMP including marginal economic contributions per 10,000 visitor days; and Appendix D.3 for statistics on user group visitation including the estimated recreation visits by motorcyclists. The BLM reviewed the information provided for these routes and updated the route reports as necessary. The BLM appreciates the efforts of public land volunteers.
Recreation	The BLM should continue to allow single track routes in the Swell including 5 Miles of Hell system routes SS2744, SS2756, SS2757, SS2755A, SS2755, SS2766, and SS2743, waterfall trail route SS4308, crack canyon route SS4308, and the Color Trails and Devil's Racetrack. The commenter believes that the cumulative loss of single-track riding opportunities in the Swell combined with Labyrinth/Gemini Bridges TMP will have economic impacts. Also, closing those trails would be discouraging to clubs that are volunteering their time to maintain the trails and may affect the ability to form and maintain future partnerships.	The range of alternatives analyzed in the EA explore varying combinations of OHV-Open, -Limited, and -Closed routes to explore a range of motorized opportunities including single track. Devil's Racetrack is open under all alternatives (refer to "Common to All Alternatives" section within 3.3.4.2). Refer to Section 3.3.4.1 for discussion of commercial SRPs administered within the TMA; Appendix A.10 AIB-10 for brief analysis of socioeconomic impacts of the TMP including marginal economic contributions per 10,000 visitor days; and Appendix D.3 for statistics on user group visitation including the estimated recreation visits by motorcyclists. The BLM reviewed the information provided for these routes and updated the route reports as necessary. The BLM appreciates the efforts of public land volunteers.
Recreation	The BLM should leave these routes open for angling access to fisheries: SS3225, SS2056, SS2059, SS2065, SS2066, SS2068, SS2070, SS2071, SS2075, SS2076, SS2078, SS2080, SS2082, SS2372, SS2476, SS2472, SS2470, SS2454, SS2453, SS2465, and SS2466.	The range of alternatives analyzed in the EA explore varying combinations of OHV-Open, -Limited, and -Closed routes to explore a range of recreation activities facilitated by motor vehicles. Recreational access to the river for fishing and other activities is present under all alternatives in some form. Analysis of impacts to anglers has been added in Section 3.3.4.3. The BLM

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		reviewed the information provided for these routes and updated the route reports as necessary.
Recreation	The BLM should analyze an alternative where dispersed camping is managed through reasonable standards instead of closing routes. Any closures of spur routes that provide access to dispersed camping in this EA will only likely displace users onto the designated wilderness. Each dispersed camping user group seeks a different type of experience on public land that often requires different access requirements, trail conditions/maintenance standards, remoteness, and locations with high scenic and recreational value. In many cases spurs, pullouts, and routes near bodies of water and unique geological formations are what determine the value of a dispersed camping site.	Refer to Section 3.3.4.1 for a detailed discussion of the experiences sought by different user groups, most or all of whom camp throughout the TMA. Analyses of impacts to camping access under each alternative for motorists is in Section 3.3.4.2. The BLM considered the impacts of different route closures for camping areas near non-motorized recreation trailheads in Section 3.3.4.3. Routes were considered for open designation in one or more alternatives. It must be noted that the TMP does not implement any new restrictions on dispersed camping but rather the locations accessible by motorized vehicle. Existing campsites along routes which are closed may still be accessed by foot, or horseback.
Recreation	The BLM should include information about illegal motorized use (on OHV closed routes or off-route) within the TMA and discuss what funding and personnel the BLM will commit to regulate unauthorized motor vehicle use.	Section 3.1 explains that the analysis assumes that OHVs will be operated in accordance with the TMP and the regulations. It was updated to clarify that BLM's enforcement program is independent of the TMP and its alternatives. There is additional information about enforcement, including references to BLM's policies for enforcement, in the Implementation Guide Section H.5.
Recreation	The Dingell Act prohibits the construction of new motorized routes within the Recreation Area. This prohibition limits the BLM's ability to accommodate the growth of motorized recreation within the recreation area which, in combination with the extensiveness of wilderness designations, will displace the increasing recreational activity to surrounding areas. If not mitigated, this displacement puts the entire Price Field Office at risk of failing to get a handle on recreation, which is the fastest growing use of public lands. Fortunately, trails can be designed and constructed for all types of use in a rather sustainable fashion, provided sufficient direction by the Price RMP.	The BLM anticipates that the TMA's current highest-use areas, as identified by the visitor use data provided in Appendix D, will continue to see the highest visitation. This contradicts the speculation that no new route construction in the Recreation Area would result in concentration of public use to the point of user conflicts.
Recreation	The BLM should address user conflicts, how user conflicts were impacted by the congressional designations, and how the TMP would reduce user conflicts.	Route-specific user conflicts, and how they would be mitigated by each alternative, are addressed in individual route reports posted on ePlanning. Please refer to Section 3.3.4.1 for detailed discussion of the definition, types, and origins of user conflict overall and for

Topic	Comment Summary	BLM Response
		individual user groups and to Sections 3.3.4.2 and 3.3.4.3 for the social impacts of each alternative, including implications for user conflict. The BLM anticipates that the TMA's current highest-use areas, as identified by the visitor use data provided in Appendix D, will continue to see the highest visitation.
Recreation	The BLM should address vehicle camping within the TMA.	Please refer to the PFO and RFO RMPs for field office vehicle camping allowances and restrictions. Management of vehicle camping beyond route-based access is outside of the scope of the TMP. However, the BLM did analyze impacts to dispersed camping from route-based access. See Appendix D for an example.
Recreation	The BLM should install information signs and kiosks near the entrances to the TMA to educate users about sensitive areas and Leave No Trace practices.	The TMA's sign program is included in the Implementation Guide, Appendix H.
Recreation	The BLM must acknowledge the miles of routes closed by the wilderness designation and the resulting recreation displacement from those routes onto the remaining routes. The commenter submits that closing routes leading into wilderness has already displaced visitor use.	Regarding routes in the Wilderness designation, see footnote 12 on page 25.
Recreation	A wider variety of trails helps to disperse users.	Please refer to Section 3.3.4 for analysis of how each alternative would impact recreation access and patterns and to Appendix D for discussion of visitor use trends overall in the TMA, within specific management units, and by user group.
Recreation	Closures of spur roads to dispersed camping spots concentrate use and human waste into smaller areas, and has an adverse effect to area users.	Please refer to Appendix D for a baseline of camping impacts and patterns within the TMA. Routes were considered as open in one or more alternative, and potential camping impacts were analyzed in Section 3.3.4.2. Non-motorized access is discussed in Section 3.3.4.3.
Recreation	Closures of spur roads to dispersed camping spots concentrate use and human waste into smaller areas, and has an adverse effect to area users. Route SS4226 provides opportunities for OHV,	Please refer to Appendix D for a baseline of camping impacts and patterns within the TMA. Routes were considered as open in one or more alternative, and potential camping impacts were analyzed in Section 3.3.4.2. Non-motorized access is discussed in Section

Topic	Comment Summary	BLM Response
	Camping, Canyoneering, Recreation. Route SS2792 provides opportunities for OHV, Camping, Canyoneering, Recreation	3.3.4.3. The BLM reviewed the information provided for these routes and updated the route reports as necessary.
Recreation	Crowded conditions in nearby national parks will result in visitors seeking more remote, wildland experiences in nearby public lands. The BLM should keep OHVs away from places that are popular for non-motorized recreation such as wildlife watching, photography, hiking, river running (by canoe, kayak or raft), canyoneering, climbing, and mountain biking.	The BLM conducted an in-depth review of visitation trends at nearby national parks in relation to the TMA. The BLM determined that visitation trends since 2022 within the PFO and in the national parks in the TMA do not forecast significant changes in visitation patterns in the TMA; see Appendix D.3. The BLM administers recreation under a multiple-use mission and recognizes that non-street legal vehicles (a substantial user group of the Swell) are prohibited in the referenced NPS units and many others. The BLM is obliged under 43 CFR 8342.2(c), to locate trails in such a way as to minimize conflicts between OHVs and other existing or proposed recreational uses of the same or neighboring public lands. While the Swell offers many opportunities for non-motorized recreation, it is also very popular for motorized recreation and the BLM has no directive (RMP or otherwise) to prioritize one over the other or implement zones targeted towards one or the other. The range of alternatives analyzed in the EA explore varying combinations of OHV-Open, -Limited, and -Closed routes to explore a range of recreation activities facilitated by motor vehicles.
Recreation	The BLM should keep the following routes open for their recreational and scenic values as well as access to historic sites: 5 Miles of Hell system routes SS2755a, SS2757, and SS2758; the VJ trail, SS2727; SS1401 to the Marsing Ranch; the Waterfall Trail SS4308; the Behind the Door trail system SS1531 and SS1532; the Bonus Loop SS1548; and Bob's Route SS 1415. Many single-track trails were purpose-built for motorcycles and thus do not draw user conflict.	The range of alternatives analyzed in the EA explore varying combinations of OHV-Open, -Limited, and -Closed routes to explore a range of recreation activities facilitated by motor vehicles. The BLM considered that some trails were purpose-built for motorcycles when developing route evaluations; this consideration is what led to some routes being identified as "Limited - Single Track" under one or more alternatives, as an Open designation could result in trail widening or other alterations to accommodate larger vehicles.
Recreation	The BLM should leave dispersed camping locations along Mexican Mountain Road. Closing these sites will concentrate people into fewer locations, resulting in increased user conflict	Dispersed camping access was considered during route evaluation and alternatives development (see route purpose and need). Routes were considered as open in one or more alternatives. Please refer to Section 3.3.2 for specific discussion of potential impacts in the

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		Mexican Mountain Road corridor and to Appendix D for a baseline summary of dispersed camping within the TMA.
Recreation	The BLM should not allow e-bikes on non-motorized trails because it is impossible for an enforcement officer to determine an e-bike's class in the field, and owners may modify the bike to increase power and speed.	Non-motorized trails are outside the scope of this TMP, as described in Section 1.2. The BLM did consider limiting a few motorized routes to e-bike use in Alternatives B, C, D, and E.
Recreation	The BLM should maintain or increase access to dispersed camping because people will spread out if more routes are available, reducing impacts to a single area.	Please refer to Appendix D for a baseline of camping impacts and patterns within the TMA. Routes were considered as open in one or more alternative, and potential camping impacts were analyzed in Section 3.3.4.2.
Recreation	SSS3158 Wedge/Goodwater Access Closed B, C. This route was designated open in 2008 and has been a popular trail. It provides a loop from the Wedge rim, Goodwater Rim trail back to County Rd #405. Closure would add to the congestion along Wedge rim, since all traffic would need to go out and back.  SS4308 Waterfall Trail. This trail was developed and implemented through basic planning process by PFO, has been open for decades, serves a specific user group by providing a unique recreational experience. It should be designated open for motorized single-track use.	The BLM reviewed the information provided for these routes and updated the route reports as necessary.
Recreation	Opening routes creates motorized vs. non-motorized user conflict issues, especially impacting solitude in areas such as Price River, Red's Canyon, and San Rafael Knob.	The Recreation section of the EA analyzes potential user conflicts and implications for recreation trends for all alternatives (Section 3.3.4.2; Appendix D). The lands with wilderness characteristics section discusses impacts to solitude (Section 3.3.2) including impacts to Price River lands with wilderness characteristics. Section C.8 discusses San Rafael Knob. The wilderness section discusses Red's Canyon (AIB-5).
Recreation Area	BLM did not analyze the significant impacts that designation of 200 more miles of new routes within the San Rafael Swell Recreation Area. See AIB-4. BLM did not identify potential impacts specific to the San Rafael Swell Recreation Area, instead merely discussing impacts more broadly. See generally EA at 30-	The analysis for the Recreation Area has been revised to include route information by alternative, impacts by resource value, and the protection, conservation, and enhancement of those values. See Appendix A - Section AIB-4 (San Rafael Swell Recreation Area).

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	<p>109. BLM identifies the analysis area for various resources as the Recreation Area, but the EA does not then specify and discuss impacts to the resource within the Recreation Area itself. EA at 44-49, at 79-83, 30-33, 75-78, 83-89. The impact analysis uses the larger TMA acreage, but that impact might be greater if it is viewed within the smaller Recreation Area boundary. The BLM did not comply with the Dingell Act because it did not analyze the impacts of the alternative route networks on resource values specifically within the San Rafael Swell Recreation Area. BLM also did not discuss how each alternative route network protects, conserves and enhances, recreational, cultural, natural, scenic, wildlife, ecological, historical, and educational resources in the Recreation Area.</p>	
Route Evaluation	<p>The EA states: "When identifying proposed designations, the evaluators weighed the purpose and need for each route against the resource conflicts, along with the route's role in the overall travel network, to determine in which, if any, of the action alternatives B-D the route would be designated for OHV use. Additionally, evaluators considered and discussed route locations and characteristics and explored opportunities and techniques for avoiding or mitigating route designation effects to minimize damage, disruption, and conflict with various resources and among users." The BLM should better explain their process by addressing:</p> <ul style="list-style-type: none"> <li>• How considerations of multiple use, access, and resource protection are prioritized under each alternative when proposing designations (e.g., under Alternative B, which emphasizes resource protection, the BLM might discuss whether every OHV route which poses potential resource concerns is designated OHV-closed, or if a more complex decision-making process is used);</li> <li>• What, if any, resource protection thresholds must be crossed to designate a route as OHV-closed; and</li> <li>• The steps taken under each alternative, such as consensus among specialists, to ensure consistency in application of criteria across all routes in the total evaluated network. In general, we recommend outlining the decision-making process in as much detail as would be needed to provide the</li> </ul>	<p>The process used by the BLM to evaluate each route and propose alternative designations is described in the EA, Sections 2.1.2, 3.1.1, and Appendix G (as well as in specific analysis sections throughout the EA). Also, considerations of multiple use, access, and resource protection are listed in sections 2.1.4 through 2.1.8. Route specific considerations are documented in the route forms. Resource protection thresholds are identified in chapter 3 under the issue statements, if applicable. The resource buffers used to identify if an issue exists are documented in the route analysis tables in chapter 3. Due to the lack of some data, such as a complete soil survey, the specialists relied on their professional judgement and site-specific knowledge to make impact and designation determinations. Therefore, there is no way to create an "instruction manual" for the public that would help them recreate or determine appropriate route designations.</p>

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	public with an “instruction manual” for determining appropriate designations for each route in the total evaluated network under each alternative.	
Route Evaluation	The information set forth in the draft TMP, including the route reports (however voluminous they may be), is NEPA deficient when it comes to explaining the basis or rationale for the various proposed route closures in the range of alternatives. The information amounts to little more than route-by-route conclusions as to what will be closed, with little to no underlying data, and no analysis and application of data or other criteria to explain any of the proposed route closures. The NEPA deficiencies here include (a) failure to take a hard look at the routes and the conditions in support of or against closure, (b) a failure of transparency, (c) failure to inform the public, and (d) arbitrary and capricious governmental decision making.	The process used by the BLM to evaluate each route and propose alternative designations is described in the EA, Sections 2.1.2, 3.1.1, and Appendix G (as well as in specific analysis sections throughout the EA). Also, alternative route network considerations of multiple use, access, and resource protection are listed in sections 2.1.4 through 2.1.8. Also, the Route Reports show how each route was individually considered for each route network alternative, and shows what different resources were associated and considered before designating that route, and even has rationale statements for why it is open, limited, or closed for each alternative. Also, the BLM used the route network geographic areas (Appendix C) to better show how routes were considered on network levels. Also, the BLM updated the Implementation Guide to document actions that would be taken to ensure impact and user conflict minimization through various measures including signing, maintenance, enforcement, monitoring, and reclamation. The Decision Record also contains rationales for routes designations in the decision.
Route Maintenance	The BLM must explain how maintenance of the routes will be conducted, and how the BLM's objective of safety and navigability for desired routes will be achieved without changing the class, character, function, or recreational experience of the route.	Section H-4 of the Implementation Guide (Appendix H) states, “The BLM will maintain the routes at an intensity level appropriate for the route. For example, the routes receiving the heaviest use are the routes subject to level 5 maintenance intensity.” Table Appx-34 describes the various intensity levels. Appendix H was updated, and Table Appx-35 was added to show how the route class corresponds with the maintenance intensity, and how many miles of maintained and infrequently maintained roads exist in the route inventory. If BLM determines there is a need to change the character, class, and/or function of the route to manage for a higher use level, the BLM has the discretion to conduct that action into the future through the appropriate analysis process.

Topic	Comment Summary	BLM Response
Route Network Geographic Areas	<p>BLM failed to take a hard look at impacts to motorized and non-motorized recreation by arbitrarily dividing the TMA into “route network geographic areas” for analysis and also underestimating impacts to non-motorized recreation opportunities.</p> <p>BLM claimed the geographic areas were based on “natural separating features” and chosen “based on different recreational experiences and opportunities.” Id. App. C at 159, however, the boundaries are entirely arbitrary and improperly magnify the impact that any proposed route closure would have on motorized recreation. For example, the EA highlights Alternative B’s “Notable Impacts” in each route network geographic area. Id. at 61-63.</p> <p>Within the Behind the Reef Area, the EA notes that Alternative B would close the Waterfall Trail, “the only single-track route in this route network geographic area.” Id. at 61. While that may be true, it does not capture the reality that the Twin Knolls trail system—which would remain open to single-track use in Alternative B—is less than 4 miles away in the adjacent Temple Mountain geographic area. Compare id. at 61 with id. App. B, Map 3. The Twin Knolls system is a more extensive route network, so the impact to motorized recreation would not be nearly as significant as the EA contends.</p> <p>BLM’s discussion about the relative impacts of each alternative similarly suffers from this misleading method of “analysis.” EA at 61. The discussion confusingly re-groups the 22 route network geographic areas into nine different route network geographic areas, without any explanation for that change. Id. at 61. The geographic areas (whether 22 or 9) overinflate the impact of route closures in any given area.</p> <p>Compare EA at 60 (noting that Alternative B would result in a 16% (218-mile) reduction in OHV-Open routes and a 17% (17-mile) reduction in OHV-Limited routes) with id. at 62 (highlighting that Alternative B would close 88% of the seasonally restricted route mileage in the Fremont Junction/Limestone Cliffs route network geographic areas).</p>	<p>During the review process in 2023, the BLM broke the entire TMP planning area into 22 route network geographic areas. BLM created these areas based on natural separating features on the ground such as topography, major roads (Interstate 70), and the already established TMP boundary. In addition to those features, BLM also picked the route network geographic areas based on different recreational experiences and opportunities. The BLM utilized the route network geographic areas to ensure the preliminary route alternatives considered the network connectivity in these smaller areas while also complying with the designation criteria (43 CFR 8342.1) through minimizing impacts and user conflicts on a network basis as documented in Sections 2.1.4 through 2.1.8, on a route-specific basis as documented in the individual route reports, and on a resource basis as documented in Section 3.3 and Appendix A</p> <p>The BLM sub-divided the routes into network areas to aid in analysis, helping the BLM to consider localized impacts which might otherwise have been overlooked, and help the public to digest the diverse landscape of the 1.1 million-acre TMA. In some cases for analysis, network areas were consolidated due to exceptionally high network connectivity in order to provide brevity to the reader; these consolidations were specifically made in established motorized trail networks such as Chimney Rock. The "Notable Impacts" tables highlight site-specific concerns which might otherwise have been lost by the scale of the TMA. In addition to these tables, a bulleted list of both impact themes and user group-specific concerns was included to capture holistic impacts and patterns which might span multiple network areas, such as an overarching loss of or increase in backcountry vehicle access. Some site-specific impacts were also noted so as to not deflate the proportional significance that small changes in route designation could have on recreation in high use areas (e.g., vehicle-supported camping access in specific areas). Finally, the effects across network areas, such as the availability of single-track trails, are captured in the tables at the head of each section which show the net mileage change in each type of route designation. Through these three data presentation approaches, the BLM has</p>

Topic	Comment Summary	BLM Response
	<p>Closing routes in route network geographic areas with fewer total evaluated routes will always seem more significant when viewed and analyzed in isolation.</p> <p>The narrow focus on individual route network geographic areas prevents BLM from taking a hard look at the impacts of proposed closures to motorized and non-motorized recreation and improperly magnifies the impact of route closures on recreation opportunities, it downplays motorized route designation impacts to non-motorized recreation.</p> <p>BLM claims—without support—that “[t]he majority of non-motorized recreation occurs in designated wilderness.” EA at 55. While there are significant non-motorized opportunities in designated wilderness, BLM did not adequately consider non-motorized recreation outside of designated wilderness. For instance, the hikes for Chute, Crack, Ding and Dang canyons all begin outside of designated wilderness and are impacted by motorized recreation. Places like Family Butte, San Rafael Knob, Iron Wash, Short Canyon, Mussentuchit Dunes, Calf Mesa and Molen Reef all provide important non-motorized recreation outside of designated wilderness.</p> <p>BLM also acknowledges that long-distance bicycling and bikepacking are emerging, which BLM acknowledges are emerging recreational uses within the TMA, occur outside of designated wilderness and are affected by motorized trail designations. Further, even if non-motorized recreation occurs in designated wilderness, it is still impacted by motorized use from things like noise, dust and visual impacts.</p> <p>BLM is inaccurate in its claim that six of the route network geographic areas do not have any well-established non-motorized recreation opportunities and thus does not analyze impacts to non-motorized recreation in those regions. EA at 55 n. 25. The following non-motorized recreation opportunities are available in those areas and BLM should analyze impacts from the various proposed route and route network designations to these non-motorized recreation opportunities accordingly.</p>	<p>given a balanced discussion the multiple scales at which each alternative would impact individual user groups, specific recreation sites, types of recreation experiences, and overall access, opportunities, and experiences.</p> <p>Regarding consideration of non-motorized recreation, language has been added to the EA and additional analysis methods added to Appendix D to clarify the approach to non-motorized recreation and the distinction between "quality" recreation opportunities and "established" opportunities. Since non-motorized recreation is not restricted to routes there are near-infinite opportunities; however, for analysis purposes the BLM focuses on those which, per BLM monitoring and reports, receive discernible use. The BLM refers the commenter to the analyses (bulleted patterns as well as impact summaries) for site-specific impacts across the alternatives. Effects to mountain biking, while non-motorized, are addressed in the motorized recreation section as e-bikes designations are considered under the TMP and are thus already addressed there.</p>

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	<ul style="list-style-type: none"> <li>• Mounds: The Price River, which forms the boundary of the area, offers an exceptional non-motorized river trip from the bridge crossing to Woodside, which eventually extends to the Green River through the Book Cliffs. There are also different packrafting loop opportunities throughout the area and adjacent network areas. There are day hiking opportunities in portions of the river corridor, including one that descends an old stock trail. The area also provides good opportunities for wildlife viewing in the river corridor.</li> <li>• Grassy Trails: The Price River, which forms the boundary of the area, offers the same river trip from the bridge crossing to Woodside as discussed above. The Grassy Trail Creek flows through this area with known hikes to cultural sites.</li> <li>• Humbug Canyon/Chimney Rock: Again, the Price River forms the boundary of this geographic area and offers the non-motorized river trip from the bridge crossing to Woodside. There is known hiking and backpacking in Humbug Canyon in the western portion of the area. Stove Gulch, and its deep canyon also offer an excellent day hike.</li> <li>• North Jurassic/Flat Top: This area again provides the non-motorized river trip down the Price River. Flattop Mountain is also a hiking and “peak bagging” destination.</li> <li>• Fremont Junction: This area offers hiking opportunities in the North Hollow, North Fork and Indian Canyons, as well as in part of Last Chance Creek.</li> <li>• Limestone Cliffs: This area offers opportunities for big game hunting as well as hiking and backpacking trips connecting with contiguous Forest Service lands through Solomon and Last Chance Creeks. By both magnifying the purported impacts of potential route closures on motorized recreation and underestimating potential route impacts on non-motorized recreation, BLM has failed to take a hard look at impacts to recreation.</li> </ul>	

Topic	Comment Summary	BLM Response
Route-Specific	The BLM must consider that the following routes bring users to Ferron City, and therefore have a tie to our local economy: 5224, 5210, 5225, 5229, 5230, 3420, 3425, 5211, 5213, 5221, 5220, 3482 and 3426.	The social and economic impacts of trail designation are disclosed in AIB-10 (Socioeconomics). See also the route specific comments.
Route-Specific	The BLM needs to account for the information provided by the various commentors on the following routes: SS1018, SS1019, SS1023, SS1043, SS1056, SS1063, SS1132, SS1147, SS1149, SS1151, SS1234A, SS1392, SS1414, SS1415, SS1455, SS1472, SS1482, SS1485, SS1494, SS1497, SS1498, SS1532, SS1533, SS1535, SS1548, SS1551, SS2037, SS2053, SS2055, SS2056, SS2065, SS2068, SS2177, SS2226, SS2346, SS2419, SS2421, SS2422, SS2491, SS2533, SS2565, SS2566, SS2567, SS2577, SS2578, SS2579, SS2639, SS2752, SS2764, SS3228, SS3269, SS3270, SS3271, SS4226, SS4275, SS4430, SS4431, SS4432, SS4436, SS4437, SS4450, SS4451, SS4460, SS4463, SS4470, SS4471, SS4484, SS4485, SS4554, SS4563, SS4564, SS4580, SS4581, SS4586, SS4588, SS5021, SS5024, SS5036, SS5038, SS5060, SS5070, SS5071, SS5072, SS5080, SS5139, SS5178, SS6044, SS6077, SS6100, SS6106, SS6192, SS6059, SS4161, SS4172, SS5147, SS4259, SS4303, SS4242, SS4245, SS4171	The BLM made changes to the applicable route forms to account for the new information received on these routes. BLM has updated all of the route forms as needed, and considered these route specific comments while developing Alternative E.
Route-Specific	BLM received public comments on listed routes below. These routes included information such as preferred designation, resources present, or known uses: SS1020, SS1021, SS1028, SS1031, SS1033, SS1038, SS1040, SS1048, SS1049, SS1051, SS1071, SS1072, SS1104, SS1122, SS1144, SS1160, SS1161, SS1172, SS1179, SS1229, SS1234, SS1240, SS1255, S1273, SS1283, SS1286, SS1288, SS1289, SS1294, SS1343, SS1354, SS1363A, SS1368, SS1369, SS1372, SS1378, SS1379, SS1385, SS1395, SS1396, SS1404, SS1406, SS1410, SS1418, SS1424, SS1425, SS1426, SS1430A, SS1434, SS1486, SS1487, SS1490, SS1493, SS1506, SS1510, SS1512, SS1515, SS1533A, SS1542, SS1543, SS2058, SS2060, SS2062, SS2064, SS2066, SS2070, SS2074, SS2076, SS2078, SS2079, SS2080, SS2082, SS2088, SS2108, SS2109, SS2145, SS2176, SS2183, SS2194, SS2195, SS2204, SS2205, SS2206, SS2209, SS2217, SS2218, SS2219,	The BLM reviewed these routes and determined they did not provide any new information. The information provided was already considered and captured on the route forms. Therefore, no change was made to the route forms or the EA for any of these routes. However, the BLM considered these route specific comments while developing Alternative E.

Topic	Comment Summary	BLM Response
	<p>SS2224, SS2241, SS2242, SS2243, SS2420, SS2430, SS2481, SS2497, SS2498, SS2503, SS2505, SS2512, SS2514, SS2515, SS2523, SS2525, SS2526, SS2552, SS2620, SS2624, SS2644, SS2657, SS2658, SS2662, SS2663, SS2678, SS2681, SS2682, SS2683, SS2728, SS2736, SS2745, SS2755, SS3024, SS3045, SS3114, SS3115, SS3123, SS3167, SS3178, SS3184, SS3185, SS3186, SS3214, SS3268, SS3285, SS4164, SS4184, SS4185, SS4188, SS4198, SS4204, SS4206, SS4209, SS4214, SS4223, SS4226A, SS4271, SS4281, SS4287, SS4325, SS4537, SS4541, SS4553, SS5023, SS5058, SS5079, SS5099, SS5111, SS5125, SS5135, SS5144, SS5164, SS5170, SS5171, SS5188, SS5190, SS5208, SS5221, SS5229, SS5230, SS5237, SS5249, SS5251, SS5260, SS5264, SS5278, SS5302, SS5392, SS5420, SS6037, SS6038, SS6058, SS6089, SS6104, SS6113, SS5148, SS3505, SS4070, SS4072, SS4099, SS4102, SS4114, SS4138, SS4139, SS4141, SS4150, SS4187, SS1381, SS1383, SS3286, SS3345, SS3350, SS3357, SS3430, SS3440, SS3448, SS3478, SS4574, SS6130, SS6140, SS6165, SS6171, SS1001, SS1002, SS1003, SS1005, SS1006, SS1007, SS1008, SS1009, SS1010, SS1011, SS1012, SS1015, SS1016, SS1017, SS1024, SS1027, SS1030, SS1034, SS1039, SS1054, SS1059, SS1060, SS1067, SS1068, SS1077, SS1083, SS1086, SS1087, SS1101, SS1102, SS1106, SS1109, SS1110, SS1111, SS1112, SS1113, SS1116, SS1125, SS1128, SS1131, SS1136, SS1141, SS1143, SS1165, SS1167, SS1171, SS1181, SS1182, SS1183, SS1184, SS1194, SS1195, SS1205, SS1218, SS1219, SS1220, SS1232, SS1235, SS1236, SS1238, SS1244, SS1245, SS1257, SS1259, SS1260, SS1261, SS1262, SS1272, SS1285, SS1300, SS1301, SS1302, SS1303, SS1314, SS1331, SS1335, SS1336, SS1337, SS1340, SS1341, SS1342, SS1349, SS1357, SS1386, SS1391, SS1393, SS1398, SS1399, SS1405, SS1409, SS1419, SS1423, SS1427, SS1430, SS1431, SS1432, SS1433, SS1436, SS1453, SS1459, SS1461, SS1463, SS1464, SS1467, SS1468, SS1471, SS1473, SS1474, SS1477, SS1478, SS1491, SS1492, SS1496, SS1496A, SS1499, SS1500, SS1501, SS1511, SS1516, SS1525, SS1526, SS1530, SS1530A, SS1531, SS1532A, SS1534, SS1536, SS1539, SS1539A, SS1541, SS1544, SS1548, SS1547, SS1547A, SS1553, SS1554, SS1555, SS1556, SS1561, SS1562, SS1566, SS1568, SS2001,</p>	

Topic	Comment Summary	BLM Response
	SS2002, SS2024, SS2039, SS2044, SS2046, SS2057, SS2059, SS2069, SS2071, SS2073, SS2075, SS2081, SS2086, SS2089, SS2125, SS2133, SS2144, SS2150, SS2151, SS2153, SS2157, SS2161, SS2162, SS2168, SS2170, SS2173, SS2174, SS2179, SS2181, SS2182, SS2184, SS2186, SS2189, SS2199, SS2211, SS2221, SS2228, SS2230, SS2232, SS2233, SS2234, SS2236, SS2237, SS2239, SS2245, SS2246, SS2251, SS2257, SS2265, SS2268, SS2276, SS2281, SS2288, SS2292, SS2293, SS2306, SS2307, SS2317, SS2325, SS2353, SS2369, SS2370, SS2372, SS2373, SS2376, SS2379, SS2385, SS2386, SS2387, SS2389, SS2397, SS2444, SS2445, SS2451, SS2453, SS2454, SS2461, SS2465, SS2466, SS2470, SS2472, SS2475, SS2476, SS2479, SS2479A, SS2489, SS2506, SS2508, SS2529, SS2530, SS2531, SS2534, SS2535, SS2537, SS2539, SS2540, SS2550, SS2553, SS2560, SS2562, SS2568, SS2570, SS2571, SS2572, SS2573, SS2574, SS2576, SS2580, SS2581, SS2582, SS2584, SS2586, SS2588, SS2589, SS2590, SS2591, SS2594, SS2595, SS2597, SS2598, SS2599, SS2601, SS2602, SS2603, SS2605, SS2607, SS2614, SS2615, SS2622, SS2623, SS2633, SS2637, SS2638, SS2640, SS2641, SS2642, SS2643, SS2648, SS2652, SS2653, SS2659, SS2660, SS2666, SS2667, SS2668, SS2671, SS2675, SS2686, SS2687, SS2689, SS2695, SS2697, SS2709, SS2710, SS2714, SS2715, SS2721, SS2722, SS2723, SS2724, SS2725, SS2726, SS2727, SS2730, SS2743, SS2744, SS2746, SS2753, SS2756, SS2757, SS2758, SS2762, SS2766, SS2767, SS2769, SS2776, SS2783, SS2784, SS2792, SS2795, SS2803, SS2806, SS2807, SS3010, SS3011, SS3012, SS3025, SS3036, SS3038, SS3039, SS3040, SS3041, SS3042, SS3043, SS3044, SS3047, SS3048, SS3049, SS3050, SS3054, SS3061, SS3068, SS3071, SS3083, SS3084, SS3089, SS3090, SS3094, SS3113, SS3116, SS3145, SS3153, SS3158, SS3171, SS3175, SS3177, SS3180, SS3188, SS3189, SS3224, SS3225, SS3236, SS3239, SS3240, SS3241, SS3252, SS3262, SS3264, SS3272, SS3273, SS3274, SS3275, SS3277, SS3278, SS3279, SS3280, SS3281, SS3283, SS3290, SS3294, SS3295, SS3297, SS3302, SS3308, SS3314, SS3315, SS3322, SS3332, SS3341, SS3343, SS3346, SS3352, SS3366, SS3370, SS3378, SS3380, SS3381, SS3382, SS3383, SS3384, SS3388, SS3394, SS3413, SS3419, SS3420, SS3424,	

Topic	Comment Summary	BLM Response
	<p>SS3425, SS3426, SS3434, SS3437, SS3438, SS3454, SS3464, SS3472, SS3475, SS3481, SS3482, SS3488, SS3498, SS3530, SS3532, SS4001, SS4002, SS4003, SS4004, SS4006, SS4010, SS4014, SS4017, SS4026, SS4027, SS4033, SS4034, SS4039, SS4040, SS4045, SS4047, SS4050, SS4052, SS4053, SS4054, SS4056, SS4059, SS4062, SS4064, SS4066, SS4067, SS4068, SS4074, SS4087, SS4090, SS4095, SS4096, SS4097, SS4100, SS4103, SS4106, SS4115, SS4116, SS4120, SS4121, SS4122, SS4125, SS4129, SS4136, SS4142, SS4148, SS4149, SS4154, SS4156, SS4169, SS4175, SS4176, SS4177, SS4178, SS4179, SS4191, SS4192, SS4193, SS4194, SS4199, SS4202, SS4205, SS4207, SS4210, SS4220, SS4221, SS4222, SS4224, SS4243, SS4244, SS4250, SS4253, SS4256, SS4264, SS4265, SS4266, SS4267, SS4268, SS4272, SS4276, SS4283, SS4288, SS4289, SS4291, SS4292, SS4294, SS4298, SS4300, SS4301, SS4302, SS4304, SS4305, SS4306, SS4308, SS4313, SS4318, SS4322, SS4324, SS4327, SS4336, SS4337, SS4342, SS4423, SS4441, SS4449, SS4491, SS4492, SS4497, SS4498, SS4499, SS4502, SS4507, SS4508, SS4509, SS4513, SS4513A, SS4521, SS4526, SS4528, SS4529, SS4530, SS4531, SS4532, SS4533, SS4540, SS4542, SS4546, SS4547, SS4548, SS4555, SS4556, SS4562, SS4568, SS4571, SS4572, SS4575, SS4576, SS5001, SS5002, SS5003, SS5004, SS5007, SS5012, SS5013, SS5019, SS5022, SS5025, SS5026, SS5050, SS5051, SS5069, SS5073, SS5077, SS5081, SS5083, SS5087, SS5091, SS5102, SS5127, SS5128, SS5129, SS5130, SS5131, SS5132, SS5138, SS5145, SS5150, SS5158, SS5160, SS5162, SS5176, SS5186, SS5187, SS5209, SS5210, SS5211, SS5212, SS5213, SS5214, SS5216, SS5219, SS5220, SS5224, SS5225, SS5226, SS5242, SS5242A, SS5255, SS5257, SS5274, SS5325, SS5326, SS5328, SS5329, SS5345, SS5346, SS5385, SS5388, SS5389, SS5391, SS5393, SS5394, SS5395, SS5402, SS6003, SS6017, SS6019, SS6023, SS6036, SS6055, SS6056, SS6086, SS6091, SS6094, SS6095, SS6096, SS6123, SS6128, SS6139, SS6141, SS6147, SS6148, SS6154, SS6184, SS6185, SS6189, SS6191, SS6193, SS7000</p>	

Topic	Comment Summary	BLM Response
Route-Specific	<p>BLM falsely states that all routes it is considering designating in the action alternatives—even if they were closed under the 2008 RMP—“have received continuous public OHV use over time even when such use was not authorized” such that designating any route in the “total evaluated network” “will not result in new surface disturbance.” EA at 20. See also id. at 26, 43, 89, 115, 116, 135, 140, 142. BLM has not analyzed the surface disturbance and therefore new routes they are creating by introducing motorized vehicle use onto routes that do not exist on the ground, that have fully naturalized, that are partially reclaiming or that are washes. BLM relies on that assumption in its analysis of impacts to each resource value to then diminish the impacts that would result from the proposed route designations.</p> <p>BLM contends that route SS2512 is traveled by stock 4-wheel drive vehicles as well as UTVs and ATVs and that opening the route to all vehicle types in Alternatives C and D would not result in new surface disturbance. See BLM Route Report SS2512. SUWA’s fieldwork demonstrates that this route does not exist on the ground and that designating this route for motorized vehicles would result in new surface disturbance.</p> <p>Similarly, Route SS6017 is a reclaimed route that largely no longer exists on the ground but that BLM proposes to open to all vehicles in Alternatives C and D. See BLM Route Report SS6017. BLM claims this route is currently used by stock 4-wheel drive vehicles as well as UTVs and ATVs and that opening this route will not result in any new surface disturbance. Id. SUWA’s fieldwork shows, instead, that opening this route to motorized vehicles will in fact lead to new surface disturbance.</p> <p>The following photographs from SUWA fieldwork provide only a few examples of routes that are reclaiming, do not exist on the ground or that are washes with no associated motorized use. Other routes or portions of routes that are similarly reclaiming, do not exist on the ground or that are washes not associated with motorized use within the total evaluated route network include, but are not limited to: SS1404, SS1406 SS2145, SS2512, SS2514, SS2515, SS2523, SS3045, SS3214, SS3285, SS3345 SS3505,</p>	<p>The BLM clarified the statement in 2.1.1 about regular and continuous use.</p> <p>The BLM determined all of the routes carried forward into this EA exist on the ground as documented in the route forms. As described in 2.1.1, linear disturbances that are not travel related were removed from the inventory. Regarding routes SS2512, SS6017, SS1404, SS1406 SS2145, SS2512, SS2514, SS2515, SS2523, SS3045, SS3214, SS3285, SS3345 SS3505, SS4070, SS4114, SS4154, SS4156, SS4184, SS4185, SS5024, SS5038, SS5058, SS5060, SS5071, SS5077, SS5079, SS5080, SS5081, SS5229, SS5221, SS5381, SS5392, SS5402, SS5170, SS5171, SS5420, SS5135, SS5164, SS5111, and SS6044: the BLM considered the information provided but made no changes to the route forms because they are visible in various segments throughout the routes. The route forms acknowledge these are primitive roads that are infrequently maintained. The surface disturbance associated with these routes are accounted for in every resource where acreage calculations were possible due to availability of GIS data for the resource. Other impact indicators (such as miles) were used to account for the routes when analyzing the resources where acreage calculations are not possible due to lack of resource GIS data.</p>

Topic	Comment Summary	BLM Response
	SS4070, SS4114, SS4154, SS4156, SS4184, SS4185, SS5024, SS5038, SS5058, SS5060, SS5071, SS5077, SS5079, SS5080, SS5081, SS5229, SS5221, SS5381, SS5392, SS5402, SS5170, SS5171, SS5420, SS5135, SS5164, SS5111, SS6044.	
Settlement Agreement	Where the 2017 Settlement Agreement refers to minimizing damage to public lands with BLM-inventoried wilderness characteristics, it refers to minimizing damage to those public lands, not minimizing damage to the wilderness characteristics themselves. Furthermore the 2017 Settlement Agreement refers to considering the potential damage to any constituent element of wilderness characteristics, it directs the BLM to consider such damage, but it doesn't direct the BLM to minimize such damage. If the 2017 Settlement Agreement were to direct the BLM to minimize impacts to wilderness characteristics, it probably wouldn't have been approved by the court, which cautioned against creating de facto wilderness in its 2018 dismissal of Utah's appeal.	Criteria set forth by the settlement agreement was applied during the route evaluation and environmental analysis process. Routes within land with wilderness characteristics were analyzed to determine if they were impacting all present resources including wilderness characteristics. Impacts to wilderness characteristics cannot be separated from that land which possess them. See section 3.3.2.1.
Socioeconomics	The BLM social and economic analysis should include Wayne County since Hanksville and Loa are the closest towns to the southern half of the San Rafael Swell TMA and they rely on dispersed recreation across the Swell and Mussentuchit areas.  Also, Alternatives B and C crowd more people onto fewer routes and remove opportunities such as single-track, which affects carrying capacity, visitation numbers, and experience.	The BLM acknowledges that economic contributions from visitation to the TMA can occur in counties other than those in the socioeconomic analysis area (Carbon and Emery Counties). Expanding the analysis area, however, dilutes the contribution to the planning area, and in the case of Wayne, with its small population and limited tourism infrastructure, its share of the economic contribution would be diluted in the model. BLM will add language to the EA clarifying that economic contributions from visitation to the TMA are not limited to the Carbon/Emery planning area but also can occur in neighboring counties, such as Wayne and even in areas far removed from the San Rafael TMA.
Socioeconomics	Areas that are available for multiple use recreation are used much more frequently by users who spend significantly more money than those that choose to pursue recreational opportunities in areas with higher levels of protection.	The social and economic impacts of trail designation are disclosed in AIB-10 (Socioeconomics).
Socioeconomics	The BLM should leave the following routes open because they are included in the Lost Trails Guidebook, available at <a href="https://www.sharetrails.org/3d-flip-book/the-lost-trails-guidebook-">https://www.sharetrails.org/3d-flip-book/the-lost-trails-guidebook-</a>	Inclusion of trails in an online guide does not supersede BLM's legal obligations or discretion pertaining to route designations. The BLM notes that the guidebook is free to the public and therefore

Topic	Comment Summary	BLM Response
	by-blueribobn-coalition-volume-1/ and closure could result in loss of value of the guidebook. These include SS3275, SS3278, SS3274, SS3282, SS3277, SS4083, SS4071, SS4072, SS4100-09, SS4065, SS4555, SS4554, SS4556, SS4570, SS4588, SS5502, SS5023, SS2346, SS4121, SS3300-01, SS2348, SS2288, SS2379, SS5158, SS5129.	does not understand the commenter's concern about loss of value. The social and economic impacts of trail designation are disclosed in AIB-10 (Socioeconomics).
Socioeconomics	Utah is reliant on recreational opportunities for revenues, and areas available for multiple use are used more frequently by people who spend more money than areas with higher levels of protection. In addition, BLM should comply with Executive Orders 14008 and 14057.	<p>BLM acknowledges the importance of tourism to the economies of Emery and Carbon Counties in AIB-10 (Socioeconomics). BLM will comply with all EOs, as applicable.</p> <p>E.O. 14008 Section 214 discusses administration policy with regard to public land conservation, and Section 215 creates a mandate for the Secretary of the Interior to develop a strategy to among other things, "improve access to recreation." This mandate is for the Secretary of the Interior to create a strategic plan, it doesn't dictate outcomes of specific Travel Management Planning. E.O. 14008 Section 219 calls for agencies to ensure that environmental and economic justice are a part of missions, policies, programs, and activities through the incorporations of E.O. 12898 and the amendment to E.O.12898 found in E.O. 14008 Section 210. Environmental justice has been addressed in AIB-6 and economics has been addressed in AIB-10. E.O. 14008 Section 204 calls for aligning the management of public lands and waters to support robust climate action. The BLM analyzed Greenhouse Gas and Climate Change in AIB-2 in the EA.</p> <p>E.O. 14057 makes it policy of the United States that the Federal Government leads by example to achieve a carbon pollution-free electricity sector by 2035 and net-zero emissions economy-wide by no later than 2050. These are high-level strategy requirements. There are no specific requirements for public land management, recreation, or travel planning for public OHV use.</p>
Socioeconomics	The BLM should disclose how the TMP route designations will affect permitting of organized events such as the Dirt Bike Rally and the Watermelon Crawl, with their associated tourism revenue, economic diversification, and community health benefits from access to nature.	Under 43 CFR 8340.0-5(a), authorized users, including special recreation permit holders, are not included under OHV regulations (43 CFR 8340 et seq.). Consequently, event itineraries are not confined to routes designated by the TMP and alternative routes may be considered on a project-level basis during the application

Topic	Comment Summary	BLM Response
		<p>process and associated NEPA. Route maintenance to facilitate SRP-related access can also be considered. See the portion of section 1.3 which discusses authorized users. Similarly, authorizing Special Recreation Permits for organized events are outside the scope of this EA.</p> <p>BLM acknowledges the importance of tourism to local economies in AIB-10 (Socioeconomics). In the same section, BLM acknowledges the types of experiences to which the commentor refers. See the discussion of nonmarket values.</p>
Socioeconomics	The BLM must conduct an economic impact study for each alternative because the businesses rely on purchases associated with recreational activities tied to BLM lands (fuel, food, and lodging).	As discussed in Section 3.1, and per the data in section 3.3.4.1 and Table 3-12, the BLM does not expect changes in visitation from adoption of any of the alternatives. For that reason, BLM has not done separate economic analyses for each alternative.
Socioeconomics/ Recreation/ Air Quality	The claim that closing over 1,000 miles of routes through adoption of Alternative B will not affect visitation levels begs the question about how much environmental benefit will be gained from not reducing any use in the TMA. If route closures don't lead to a reduction of visitation, then it seems unlikely that route closures will lead to reduction of environmental impact.	Not all impacts arise from visitation. Some of the impacts arise from the presence of the routes themselves. Impacts expected from the various alternatives are included in the sections identified by the numbers 3.3.X.2.
Socioeconomics/ Recreation/ Air Quality	Given the low or lack of visitation data in over half of the Route Network Geographic Areas, the BLM should provide the source of the BLM's TMA visitor day assumption (372,000 visitor days). It is plausible that an alternative may increase or decrease visitor numbers, change the types of OHV used, and modify the distribution of visitors. For example, the loss of single-track riding opportunities under Alternative B in the Temple Mountain, Five Miles of Hell, and Chimney Rock areas may reduce the number of visitor days to the area. The loss of OHV opportunities in the Humbug/Chimney Rock area may affect the tax base of local communities. OHV users may select shorter routes, may change vehicle type, may not visit the TMA at all, or may visit the area more depending on route designations. The BLM should provide data demonstrating how OHV users may respond to route closures of limitations. The BLM should explain how environmental	The BLM selects locations for collecting precise visitation data (traffic counters) based on areas of public interest, areas known to be high use, and areas popular within a specific user group as well as some low-use areas to better understand how many recreationists travel to more remote areas. These preliminary assessments, as well as the many data sources used or consulted when determining estimates, are summarized in Appendix D.3 and are available to the public upon request. While there are network areas lacking quantitative data, traffic counters in nearby network areas corroborate that these backcountry zones are low use; again, see discussion in Appendix D.3. Through these analyses the BLM determined that changes to visitation within the zones or among the user groups listed in Appendix D.3 either would not be statistically significant relative to overall visitation or would be significant but

Topic	Comment Summary	BLM Response
	<p>impacts will be reduced if the route closures don't lead to reduced visitation, as implied by the claim that closing over 1,000 miles of routes through adoption of Alternative B will not affect visitation levels. The BLM should explain what economic impacts would result from route closures. The BLM should explain how air quality emission and GHG emission impacts would vary across alternatives based on these visitor number changes.</p>	<p>would not be substantive enough to impact other resources (see respective analyses or AIBs).</p> <p>The range of alternatives analyzed in the EA explore varying combinations of OHV-Open, -Limited, and -Closed routes to explore a range of OHV opportunities including single track. Cumulative impacts of each alternative on OHV riding opportunities within the cumulative impacts area of Emery, Grand, and Sevier counties are presented in Section 3.3.4.2. See tables REC-2 and REC-3 for a breakdown by vehicle width. These impacts were considered in the development of Alternative E (preferred alternative). The lack of route reduction in the TMA's highest-use areas, as identified by the visitor use data provided in Appendix D, contradicts the speculation that route closures outside of these high-use areas would result in concentration of public use to the point of user conflicts. Sections 3.1 (Assumptions), 3.3.4.1 (Recreation), AIB-1 (Air Quality), AIB-2 (Greenhouse Gases), and AIB-10 (Socioeconomics) were updated to better cross reference the traffic counter data behind the visitor change assumption, which is summarized in Section 3.1 and detailed in Table 3-12. In addition, Table Appx-15 provides information on the marginal economic impact of fewer (or more) visitors to the TMA. Finally, Tables Appx-2 and Appx-3 were added to provide information on mobile source emissions by County.</p>
Soils	<p>BLM has failed to evaluate the impact on soils from the alternative route network. BLM instead relies on the number of routes crossing through highly erosive, moderately erosive and cryptobiotic soils. See EA at 76. The problem is that one short route that travels through cryptobiotic soils is effectively deemed to have the same impact as a single route that travels for miles through cryptobiotic soils.</p>	<p>Rationale for using the number of routes, tied to the lack of a complete soil survey, is explained in section 3.3.5.1 of the draft EA.</p>
Soils and Vegetation	<p>Because of the substantial damage OHV use causes to soil and vegetation it is necessary to reduce the number and miles of designated OHV routes throughout the TMA and especially in areas that are particularly vulnerable to soil and vegetation damage.</p>	<p>The range of alternatives analyzed in the EA are designed to address the resource issues identified. Please refer to section 3.3.3 of the draft EA for Native Vegetation and section 3.3.5 for soils for the disclosure of impacts.</p>

Topic	Comment Summary	BLM Response
Soils and Water	<p>The BLM should include erosion rates and resulting impacts to water quality based on the amount and type of surface disturbance and general characteristics (e.g., erodible soils, slopes, etc.). To develop erosion rates, BLM can use the Water Erosion Prediction Project model (WEPP), a web-based interface developed by the U.S. Department of Agriculture, Agricultural Research Service. The BLM should include measures to be implemented within highly erosive soils.</p>	<p>As described in Section 3.3.5.1, the TMA does not have a complete soil survey, which describes soil erodibility, so erosion analysis was based on geospatial datasets (such as geology and vegetation types) and specialist knowledge of the area to identify route-specific soil resource issues during the route evaluation process. However, the BLM added "Maintain route drainage to control surface erosion as appropriate" to the Implementation Plan in Appendix H section H.4.</p>
Special Status Plants	<p>Potential habitat impacted for three of ten of these plant species in the TMA (San Rafael cactus, Creutzfeldt-flower, and Psoralea Globemallow) is expected to exceed 10% under Alternative D. Potential habitat impacted for Creutzfeldt-flower habitat is expected to exceed 10% under Alternative C. The BLM should close additional routes in those areas under those alternatives or identify a threshold for significant impacts to those species.</p>	<p>Reducing impacts to potential habitat of special status plants is included within the range of alternatives. The determination of which routes will be closed is reserved for the Decision Record. The determination of significance is reserved for the Finding of No Significant Impact.</p>
User Conflict	<p>The BLM should disclose the baseline for user conflicts in the TMP, including those which are currently occurring, their scale, and the degree to which they are or can be addressed by different management actions.</p> <p>The BLM should consider the following studies (block quotes provided in comments): "Social Values versus Interpersonal Conflict among Hikers and Mountain Bikers" (Carothers et al. 2001); "Conflict attributed to snowmobiles in a sample of backcountry, non-motorized yurt users in the Wasatch –Cache National Forest" (Norling et al, 2009).</p>	<p>Regarding the baseline, please refer to the individual route evaluation sheets for the baseline of routes where user conflict could occur.</p> <p>The BLM reviewed the provided sources. The BLM decided to rely on the high-quality, peer-reviewed sources already cited in Section 3.3.4.1. Carothers et al. 2001 specifically analyzed user conflict between mountain bikers and hikers; as the TMP is regarding motorized travel route designation, the findings were not relevant to analyzing user conflicts between motorized users or between motorized and non-motorized users. Similarly, the recreational setting of Norling et al. 2009 is backcountry winter recreation, where neither motorized nor non-motorized travel is restricted to designated motor vehicle routes. Until the similarities and differences between user expectations and norms in open winter areas versus route-based desert settings is better understood, the findings of the reference are considered but ultimately not considered applicable. Moreover, outside of several select areas such as Good Water Rim and the nearby roads, the predominant user conflict potential for the TMP is conflict between motorists which could be alleviated by limiting routes by vehicle type or</p>

Topic	Comment Summary	BLM Response
		width; refer to individual route evaluations for where and why conflicts were considered. Conflict between motorized user groups are not addressed by either study, nor is the BLM considering a zoning approach or other restrictions on recreation which is not confined to designated routes (non-motorized recreation).
Vegetation	The BLM does not need to address Ute Ladies'-Tresses because it is being de-listed in 2024.	The 5-year status review conducted in 2023 recommends that <i>Spiranthes diluvialis</i> be de-listed due to recovery. However, at this time it is still federally listed as threatened.
Vegetation	BLM failed to include how small an impact OHV use has on vegetation when rules are followed such as staying on a designated route. BLM failed to show that OHV use has made the vegetation worse over some time. Although there will be impacts, those impacts are controlled and not degrading vegetation in the TMA as a whole.	Native vegetation is analyzed in detail in Section 3.3.3 of the EA. Section 3.3.3.1 specifically includes a description of the affected environment including impacts from past, present, and reasonably foreseeable actions. The BLM agrees that impacts from OHV use on native vegetation are less when users stay on established routes. Section 3.1.1 includes OHV activities that may result in impacts to vegetation such as parking and passing and dispersed camping.  Threats to listed and sensitive species include are listed in section 3.3.6.2 of the EA
Vegetation	The BLM should include maps and GIS layers of dominant and rare plant community types.	BLM added Map 18 to show the dominant plant communities. Due to the high potential of rare cacti being poached, rare plant community types are not included in maps and GIS data is not publicly available.
Water	The BLM should add the causes of waterbody impairment and include parameters of significance to impaired water bodies within in downstream of the TMA, such as degraded aquatic life within Muddy Creek or altered temperature in the San Rafael River. The BLM should determine what ongoing impacts may be due, at least in part, to the transportation network alternatives.	BLM added the waterbody impairment causes to footnote 4 in section 3.3.8.1. Water quality impacts resulting from the travel network alternatives are analyzed in Section 3.3.8.1
Water	The BLM should consider including water quality mitigation that incorporates the following measures, and discussing the effectiveness of the measures: <ul style="list-style-type: none"> <li>Minimize route density in areas with waterbodies where feasible to reduce adverse impacts to watersheds;</li> </ul>	Regarding the measure to "minimize route density in areas with waterbodies" and "Consider OHV-closed designations on waterbody-adjacent routes near slopes or erosive soils": due to the topography of the TMA, analyzing roads in proximity to water bodies is not a good indicator of impacts, and closing roads in

Topic	Comment Summary	BLM Response
	<ul style="list-style-type: none"> <li>Consider OHV-closed designations on waterbody-adjacent routes near slopes or erosive soils;</li> <li>Provide route drainage to control surface erosion using appropriate design features and BMPs;</li> <li>Consider route effects on stream structure and seasonal spawning habitats when determining restrictions for OHV use; and</li> <li>Allow for woody debris recruitment to streams and riparian buffers near streams to allow for increased filtration and reduced erosion.</li> </ul>	<p>proximity to water bodies, even if it is on slopes or erosive soils, may not reduce impacts. For example, a road may be within 100 feet of a water body but have no impact because it is located on a butte sloped away from the water body. Therefore, the BLM did not carry these measures forward.</p> <p>The BLM added "Provide route drainage to control surface erosion as appropriate" to the Implementation Plan in Appendix H section H.4.</p> <p>Regarding the "route effects on stream structure": Environmental effects to stream structure resulting from the travel network alternatives were considered in section 3.3.8. Look for the terms "channels," "conduit," and "geomorphic changes."</p> <p>Regarding the route effects on "seasonal spawning habitats": Environmental effects to fish spawning resulting from the travel network alternatives were considered in 3.3.10.3.</p> <p>Regarding "determining restrictions for OHV use" tied to stream structure and seasonal spawning, the range of alternatives closed routes to different degrees as documented in Sections 3.3.8 and 3.3.10.</p> <p>Regarding "allowing for woody debris recruitment to streams and riparian buffers near streams to allow for increased filtration and reduced erosion": Stream restoration and riparian creation through woody debris recruitment is a vegetation management project and is outside the scope of this EA as defined in Section 1.2.</p>
Water	To protect wildlife habitats and provide nature viewing experiences, BLM should close all routes where degradation of wildlife habitat and riparian areas from OHV use is occurring and should keep OHVs out of riparian areas, washes, lands with wilderness characteristics, areas important for non-motorized recreation, and as necessary to reduce the density of motorized routes.	Resource values, including wildlife habitat and water resources, associated with each route are documented in the route reports and considered during development of the alternatives (EA, Section 2.1.4). Monitoring and resource protection measures that would address degradation caused by OHV use are discussed in the Implementation Guide (Appendix H). Impacts to water resources are analyzed in Section 3.3.8, impacts to lands with wilderness characteristics are analyzed in 3.3.2, impacts to non-motorized recreation are analyzed in 3.3.4.3, and impacts to wildlife are analyzed in Sections 3.3.10, 3.3.11, Appendix A: Section 12, and

Topic	Comment Summary	BLM Response
		Appendix A: Section 19. Route density is considered throughout the TMP EA and addressed in individual resources and in the route network geographic areas (see Sections 2.1.2 and issue analyses provided in Section 3.3 and Appendix A).
Water	BLM must minimize impacts to Price River, San Rafael Swell River, springs, perennial and intermittent streams, seasonal/ephemeral drainages and wetlands by closing routes that cross or are adjacent to water resources.	Resource values, including proximity to water resources, associated with each route were documented in the route reports and considered during development of the alternatives (EA, Section 2.1.4). Impacts to water resources are analyzed in Section 3.3.8. The Implementation Guide (Appendix H) lists the BLM's identified mitigation which includes education and outreach, signing, maintaining routes, enforcement, monitoring, and reclamation.
Water	The BLM should discuss whether the benefits of designating these routes as OHV-Open or -Limited outweigh the impacts to water quality from exposure to tires, brakes, and hydrocarbons.	Impacts to water quality from exposure to tires, brakes, and hydrocarbons is discussed in Section 3.3.8.1.
Water Quality	This BLM should put the word "impaired" in quotations on page 89, so it does not look as though the State is the one responsible for the rivers being impaired.	The BLM adjusted the wording to clarify that the State is not the one responsible for the rivers being impaired. See Section 3.3.8.
Water/ Range/ Wildlife	Sids Reservoir, Three Coves Reservoir, and Twin Ponds are not discussed in the EA or easily identified using the maps or supplementary GIS layers. The BLM should address all aquatic resources (wetlands, peatlands, fens, reservoirs, ponds, springs, streams, and ephemeral drainages) in the TMA, describe their watershed condition, streambank condition, vegetation cover, soil condition, and wildlife and fish population health and habitat. The BLM should include a map and GIS data for all aquatic resources within the TMA.	Impacts to Three Coves Reservoir, Sids Reservoir, and Twin Ponds are not anticipated from OHV route designations because all are accessed by or are near low use primitive roads: Three Coves Reservoir is accessed by SS2124; Sid's Reservoir is adjacent to SS3035 and overlooked by SS3036; and Twin Ponds is accessed by SS5219 and 5216. However, ponds and springs are analyzed in brief in Appendix A Section A.7. Wetlands are addressed in section 3.3.8 using the term "riparian." There are no peatlands or fens in the TMA. Streams and ephemeral drainages including streambank condition (using the terms "channels," "conduit," and "geomorphic changes") are also addressed in Section 3.3.8. Soil conditions are discussed in Section 3.3.5. Wildlife and fish population health and habitat are discussed in Sections 3.3.10 and 3.3.11. Map 12 depicts the perennial rivers and streams. The riparian areas are so small that they won't show well on the TMA maps, however, the BLM uses GIS data from the following online databases: National Wetland Inventory at

Topic	Comment Summary	BLM Response
		<a href="https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/">https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/</a> and National Hydrography Dataset at <a href="https://www.usgs.gov/national-hydrography/national-hydrography-dataset">https://www.usgs.gov/national-hydrography/national-hydrography-dataset</a> .
Weeds	<p>The BLM should consider mitigation or an alternative that incorporates the following measures:</p> <ul style="list-style-type: none"> <li>• OHV-restrictions when risk of weed seed dispersal is high in areas of noxious weeds and invasive vegetation;</li> <li>• Signage along routes where noxious weeds or invasive vegetation are present to further discourage off-route travel;</li> <li>• Designated wash stations in or near OHV staging areas;</li> <li>• Enhanced monitoring along routes with OHV-open or OHV-limited designations where noxious weeds and invasive vegetation are present;</li> <li>• Recommendations for OHV users to voluntarily report noxious weeds and invasive vegetation</li> </ul>	<p>The TMP area is known to have several different species of noxious/invasive weed populations with varying flowering and seed dispersal periods that cover several months. OHV restrictions during weed seed dispersal would result in large areas of the TMA being shut down during most of the year. Enforcement of such a measure would be problematic due to the need to install gates and fences in topographically flat areas.</p> <p>Sections H.2 and H.3 of the Implementation Guide in Appendix H includes public education and signs. This includes weed information being added to kiosks in key areas/trail heads.</p> <p>Installing OHV wash stations are beyond the scope of the document and however, BLM's commitment to install signs could be used to teach people to wash their OHVs between each visit to the TMA.</p> <p>The BLM added information about weed treatment and monitoring that is being conducted by BLM and the Counties. In addition, there are already established programs for the public to voluntarily report noxious weeds and invasive vegetation such as EDDMaps.</p>
Wilderness	<p>The EA analysis, to the extent it relies on the baseline monitoring report to support route closures, should be updated to clarify what areas were covered by the report (lands with wilderness characteristics, BLM natural areas, WSAs, Wilderness Areas), exclude impacts from legal usage (for example - damage is asserted from ranchers maintaining fences, which we assume us under permit and outside travel management), access to dispersed camping sites outside the SRMA (for which the RMP contains no decisions), and fire rings (where the RMP allows for fire rings). Also, the report should explain what areas were covered by the report (lands with wilderness characteristics, BLM natural areas, WSAs, Wilderness Areas) and why they were covered.</p>	<p>The baseline monitoring report was made publicly available on February 22, 2024, and is available on the ePlanning page for the San Rafael Swell Travel Management Plan. Section 20.a of the 2017 Settlement Agreement states that the BLM will create a baseline monitoring report that will document visually apparent unauthorized surface disturbances off routes as well as visually apparent damage to public lands resources caused by motorized vehicle use within Wilderness Study Areas, Natural Areas, and/or lands with BLM-inventoried wilderness characteristics. How the Baseline monitoring report relates to the EA is discussed in section 3.3.2.2 of the EA.</p>

Topic	Comment Summary	BLM Response
Wilderness	By law, the BLM cannot create a buffer around wilderness areas. Closing routes in inventoried lands with wilderness characteristics creates a wilderness buffer zone. For example, routes SS2736 and SS5389A were cherry-stemmed into the wilderness area by the Dingell Act, but closed by BLM in Alternative B. Similarly, routes SS2560, SS4325, and SS2562 were closed under all alternatives. The BLM should adjust the range of alternatives to not violate the law. The BLM should further analyze these roads to ensure that the closures were not to enhance the wilderness character of the designated wilderness.	OHV route designation alternatives outside wilderness must comply with the Dingell Act and the requirements of 43 CFR 8340 and 43 CFR 8342.1 and are designed to minimize conflicts among the various uses of public lands and to minimize damage to soil, watershed, vegetation, air, wildlife, or other resources. Route designation alternatives are not made based solely on the presence or absence of lands with wilderness characteristics but take into account the full range of resources and uses existing within in a particular area (Section 2.1 of the EA). The 2008 Price RMP contains applicable management prescriptions for Natural Areas within the TMA that were not superseded by Dingell Act wilderness designations.
Wilderness	The BLM must acknowledge the miles of routes closed by the wilderness designation and the resulting recreation displacement from those routes onto the remaining routes.	Regarding routes in the Wilderness designation, see footnote 12 on page 25.
Wilderness	The BLM should not close the Chimney Rock/Never Sweat Wash/Camel Wash/Humbug/Price River area because of the proposed Red Rock Wilderness Act. Especially since the Price RMP identified the Summerville/Chimney Rock/Humbug OHV trail system (61,000 acres) for OHV use.	OHV route designation alternatives outside wilderness must comply with the requirements of 43 CFR 8340 and 43 CFR 8342.1 and are designed to minimize conflicts among the various uses of public lands and to minimize damage to soil, watershed, vegetation, air, wildlife, or other resources. Route designation alternatives are not made based solely on the presence or absence of lands with wilderness characteristics but take into account the full range of resources and uses existing within in a particular area (Section 2.1 of the EA). The 2008 Price RMP contains applicable management prescriptions for Natural Areas within the TMA that were not superseded by Dingell Act wilderness designations.
Wilderness	The BLM should not rely only on the presence of wilderness characteristics when deciding to close a route.	OHV route designation alternatives outside wilderness must comply with the requirements of 43 CFR 8340 and 43 CFR 8342.1 and are designed to minimize conflicts among the various uses of public lands and to minimize damage to soil, watershed, vegetation, air, wildlife, or other resources. Route designation alternatives are not made based solely on the presence or absence of lands with wilderness characteristics but take into account the full range of resources and uses existing within in a particular area (Section 2.1

Topic	Comment Summary	BLM Response
		of the EA). The 2008 Price RMP contains applicable management prescriptions for Natural Areas within the TMA that were not superseded by Dingell Act wilderness designations.
Wilderness	The BLM should correct the inaccurate statement "LWC units are not solely managed for the protection of their wilderness character unless a BLM land use planning decision has been made to manage the unit as a BLM natural area." Natural Areas are not managed solely for protection of LWCs. If they are managed solely for the protection of LWCs, the BLM should have made an RMP decision to allow for that protection.	<p>The BLM believes this comment confuses Outstanding Natural Areas, as described in 2012 BLM Manual 6220 (which is designated by Congress to protect, conserve, and enhance for the benefit and enjoyment of present and future generations the unique and nationally important values of certain public lands, while allowing certain recreational and research activities) with the BLM Natural Areas established by the 2008 RMPs (which were established for the management of their wilderness characteristics—see the 2008 Price RMP page 36). As stated in BLM Manual 6310 section B, "A wilderness characteristics inventory is the process of determining the presence or absence of wilderness characteristics."</p> <p>A wilderness characteristics inventory is not a designation or planning decision. However, under 43 CFR § 8342.1 the BLM has the obligation to minimize impacts to resources, including wilderness character of inventoried Lands with Wilderness Character, when designating OHV routes. The protection and management of BLM Natural Areas are decided through Land Use planning decisions. BLM manual 6320 outlines general procedures for considering lands with wilderness characteristics in the BLM land use planning process under Section 202 of the Federal Land Policy and Management Act of 1976 (FLPMA). BLM Natural areas are managed to protect, preserve, and maintain their inventoried wilderness characteristics as stated in section 3.3.2.1 of the draft EA, consistent with Management Decision WC-1 in the 2008 Price RMP.</p>
Wilderness	The BLM must explain why wilderness character has been identified in addition to that analyzed in the RMP and outside the wilderness areas.	Sec. 201 of FLPMA requires BLM to maintain an ongoing inventory of all resources on public lands which includes wilderness characteristics. Similar to other resources, wilderness characteristics can change over time due to influences such as other land uses, visitation, technology, climate change, and natural reclamation. These influences can change assessments on the

Topic	Comment Summary	BLM Response
		individual elements of wilderness characteristics such as unit size, naturalness, outstanding opportunities for solitude and/or primitive, unconfined recreation, and supplemental values. Prior to a major federal action such as travel management planning, BLM conducts a review of its LWC inventories to determine their current validity and need for updates.
Wilderness	The BLM should explain the process or include measures to prevent OHV intrusion into wilderness areas.	Motorized use is a prohibited action within wilderness. The Wilderness act states in section 4 (c) Prohibited activities states "Except as specifically provided for in this Act, and subject to existing private rights, there shall be no commercial enterprise and no permanent road within any wilderness area designated by this Act and, except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act (including measures required in emergencies involving the health and safety of persons within the area), there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structures or installation within any such area." BLM recreation staff, BLM law enforcement personnel, and project partners regularly monitor wilderness areas and address issues associated with wilderness incursions by signing wilderness boundaries and reclaiming unauthorized routes. See also Appendix G, the Implementation Guide.
Wilderness	By law, the BLM cannot create a buffer around wilderness areas. Closing routes in inventoried lands with wilderness characteristics creates a wilderness buffer zone. For example, routes SS2736 and SS5389A were cherry-stemmed into the wilderness area by the Dingell Act, but closed by BLM in Alternative B. Similarly, routes SS2560, SS4325, and SS2562 were closed under all alternatives. The BLM should adjust the range of alternatives to not violate the law. The BLM should further analyze these roads to ensure that the closures were not to enhance wilderness the wilderness character of the designated wilderness.	The BLM did not create buffers around wilderness areas. For example, the various alternatives have varying numbers of routes designated adjacent to wilderness areas. For an example, see route SS2412. OHV route designation alternatives outside wilderness must comply with the requirements of 43 CFR 8340 and 43 CFR 8342.1 and are designed to minimize conflicts among the various uses of public lands and to minimize damage to soil, watershed, vegetation, air, wildlife, or other resources. Route designation alternatives are not made based solely on the presence or absence of lands with wilderness characteristics but take into account the full range of resources and uses existing within in a particular area (Section 2.1 of the EA). The 2008 Price RMP contains applicable

Topic	Comment Summary	BLM Response
		management prescriptions for Natural Areas within the TMA that were not superseded by Dingell Act wilderness designations.
Wilderness	Cherry-stem roads should be open in all alternatives.	The BLM analyzed a range of alternatives to disclose impacts. To demonstrate that range, some cherry stem roads may have been closed in one or more alternatives.
Wildlife	<p>The BLM should analyze impacts to big game and upland game, including desert bighorn sheep, mule deer, pronghorn, Rocky Mountain elk, chukar and wild turkey as well as their habitats. BLM claims that analysis is not necessary because the routes already physically exist on the ground and have received ongoing OHV use and further that BLM is not authorizing construction of a new route. In fact, under Alternatives C and D, BLM would be authorizing new surface disturbance that could impact big game, migratory birds and BLM sensitive species and their habitats. Impacts include noise from OHVs which can travel long distances and impact wildlife, including through “disturbance, avoidance, disruption of breeding habitat, reduction of migration routes, reduction of quality habitat, and loss of habitat.” See Switalski, supra at 89; see also D.J. Schubert &amp; Jacob Smith, The Impacts of Off-Road Vehicle Noise on Wildlife, The Road RIPorter. Motorized use of routes can cause big game like mule deer to avoid areas where such use is taking place. See Switalski, supra at 89 (explaining that mule deer avoided motorized access roads during oil and gas development, in other words, when routes are being used). OHV use can also lead to declines in breeding success and survival in songbirds. Id. Closing routes in wildlife habitat—regardless of whether those routes exist on the ground or at some point have received OHV use—could meaningfully improve outcomes for a number of species. BLM must also analyze the varying impacts of the alternative route networks on big game, upland game, migratory birds and BLM sensitive species. See also Labyrinth/Gemini TMP EA at 68-87 (analyzing impacts to big game, migratory birds and BLM sensitive species despite that the Moab field office only analyzed alternative route networks that</p>	<p>The BLM analyzed in brief the impacts to big game and upland game, including desert bighorn sheep, mule deer, pronghorn, Rocky Mountain elk, chukar, wild turkey, migratory birds, and BLM sensitive wildlife species and their associated habitats. See Appendix A AIB-12, AIB-18, and AIB-19. In AIB-12, the BLM's impact indicator for each alternative is acres. In AIB-18, the BLM's impact indicator for each alternative is miles, though the BLM has added acres as an additional indicator. In AIB-19, the BLM's impact indicator for each alternative is acres. The BLM cited high-quality, peer-reviewed articles in AIB-12, AIB-18, and AIB-19 to acknowledge the impacts cited in the comment (disturbance, avoidance, disruption of breeding habitat, reduction of migration routes, reduction of quality habitat, and loss of habitat).</p> <p>As explained in Sections 1.3 and 2.1.1, none of the alternatives would authorize new surface disturbance.</p> <p>Although the Labyrinth/Gemini TMP EA analyzed big game, upland game, and migratory birds in detail, the San Rafael Swell EA analyzes them in brief. Labyrinth disclosed the impacts in terms of miles of routes. The Swell EA discloses big game and upland game impacts in terms of miles of routes for and also disclosed big game and migratory bird impacts in terms of acres of habitat. The Swell EA also discloses impacts to sensitive plant and wildlife species in terms of acres of impacts. The Swell EA analyzed these impacts in brief because the impacts are not important to help the decision maker or the public understand the difference between alternatives for the reasons stated in the AIB sections. See AIB-9, AIB-12, AIB-14, AIB-18, and AIB-19. T&amp;E plant and animal impacts and select special status plant and animal impacts were analyzed in detail in sections 3.3.6, 3.3.10, and 3.3.11.</p>

Topic	Comment Summary	BLM Response
	contemplated route designations for routes where use was already authorized).	
Wildlife	Past management and authorizations have resulted in significant habitat fragmentation in the greater sage-grouse (GRSG) range. In order to reduce habitat fragmentation caused by historical uses, it may be necessary to remove existing disturbances to improve habitat at a scale necessary to reverse GRSG population declines and habitat fragmentation and degradation. The draft EA notes that 0.53 miles of routes currently designated OHV-limited are within priority habitat management area (PHMA) for GRSG. In the final EA we recommend providing maps of all GRSG Habitat Management Area (HMA) boundaries overlayed with the existing route network, and the proposed route networks for each of the alternatives. Given the impacts that OHV use may cause to greater sage-grouse, such as impacts due to vehicle collisions, road noise, <sup>39</sup> and habitat fragmentation and degradation, the EPA recommends designating any routes within PHMA as OHV-closed. We also recommend considering other route closures to reduce and prevent habitat fragmentation and degradation, and seasonal closures (e.g., breeding, nesting, early brood-rearing, and winter habitat) to prevent further population decline.	The route in question is state route 72. It is considered a major road. It is marked as SS6119 on the route evaluation forms. Map 20 was added to show the limited amount of PHMA within this management plan. Sage grouse was analyzed in brief in Appendix A, AIB-9.
Wildlife	The BLM should consider mitigation or an alternative that closes routes to OHV use within high value migratory bird and raptor habitat along the Price River, San Rafael River, and Muddy Creek such as SS2074 and SS5302.	The BLM considered closing the routes in one or more alternatives. The Implementation Guide (Appendix H) lists the BLM's identified mitigation which includes education and outreach, signing, maintaining routes, enforcement, monitoring, and reclamation. Closing redundant routes is a goal of designating routes within the TMA.
Wildlife	The BLM should use the March 21, 2023, CEQ memo titled Guidance to Federal Departments and Agencies on Ecological Connectivity and Wildlife Corridors to inform the decision and mitigation measures regarding connectivity across terrestrial and freshwater habitats and airspaces.	This TMP effort predates the CEQ guidance, and the Settlement-set project boundary limits the scale of the landscape. However, the BLM has implemented the following best practices which may be equivalent to the intent of the best practices from the memo (section A. Agency Planning and decision making). Considering big game and migratory bird migration corridors in alternative development, engaging with local communities through cooperating agency

Topic	Comment Summary	BLM Response
		<p>agreements and public meetings, restoring habitat through route closure and reclamation to varying degrees across the alternatives.</p> <p>See also the Implementation Guide (Appendix H) which lists the BLM's identified mitigation which includes education and outreach, signing, maintaining routes, enforcement, monitoring, and reclamation.</p>
Wildlife	<p>BLM should consider the following references in their analysis of OHV use and impacts to wildlife and the environment:</p> <ul style="list-style-type: none"> <li>• Rooney, T.P. In Prep. Off-road vehicles as dispersal agents for exotic plant species in a forested landscape. Submitted to Environmental Management.</li> <li>• Vieira, M.E.P. 2000. Effects of Early Season Hunter Density and Human Disturbance on Elk Movement in the White River Area, Colorado. Unpublished M.S. Thesis. Fort Collins, CO: Colorado State University.</li> <li>• Stokowski and LaPointe (2000)</li> <li>• Wisdom, M. J., H. K. Preisler, N. J. Cimon, and B. K. Johnson. 2004. Effects of Off-Road Recreation on Mule Deer and Elk. Transactions of the North American Wildlife and Natural Resource Conference 69. <a href="http://bluewaternetwork.org/reports/rep_atv_forestservice.pdf">http://bluewaternetwork.org/reports/rep_atv_forestservice.pdf</a> &lt;<a href="https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fbluewaternetwork.org%2Freports%2Frep_atv_forestservice.pdf&amp;data=05%7C02%7Cblm_ut_pr_comment%40blm.gov%7Cf5cf72f228e94c434feb08dcaa9c973d%7C0693b5ba4b184d7b9341f32f400a5494%7C0%7C0%7C638572836741023928%7CUnknown%7CTWFpbGZsb3d8eyJWIjoIMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6IklhaWwiLCJXVCi6Mn0%3D%7C40000%7C%7C%7C&amp;sdata=8NzP77c%2Fvi7Kcn%2FHmMVDdbQsGO6b%2B0G09U4yA3BbxoKE%3D&amp;reserved=0">https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fbluewaternetwork.org%2Freports%2Frep_atv_forestservice.pdf&amp;data=05%7C02%7Cblm_ut_pr_comment%40blm.gov%7Cf5cf72f228e94c434feb08dcaa9c973d%7C0693b5ba4b184d7b9341f32f400a5494%7C0%7C0%7C638572836741023928%7CUnknown%7CTWFpbGZsb3d8eyJWIjoIMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6IklhaWwiLCJXVCi6Mn0%3D%7C40000%7C%7C%7C&amp;sdata=8NzP77c%2Fvi7Kcn%2FHmMVDdbQsGO6b%2B0G09U4yA3BbxoKE%3D&amp;reserved=0</a>&gt;</li> <li>• Utah Department of Natural Resources, Division of Parks and Recreation, January 18, 2002.</li> </ul>	<p>The BLM reviewed the provided sources. The BLM decided to rely on the high-quality, peer-reviewed sources already cited in AIB-12, AIB-18, and AIB-19.</p> <ul style="list-style-type: none"> <li>• Rooney, T.P. In Prep. Discusses off-road vehicles as dispersal agents for exotic plant species in a forested landscape. References invasive plants that do not occur within the TMP. Discusses human vehicles as a dispersal agent for invasive plants.</li> <li>• Vieira, M.E.P. 2000. Discusses effects of Archery Hunter Numbers on Opening Dates of Elk Movement. Discusses hunters impacts on elk.</li> <li>• Stokowski and LaPointe. 2000. Duplicates information in our currently used sources. Most of the examples in the wildlife section are from coastal environments.</li> <li>• Wisdom, M. J., H. K. Preisler, N. J. Cimon, and B. K. Johnson. 2004. Duplicates information in our currently used sources. Discusses effects of off-road recreation on mule deer and elk.</li> <li>• Utah Department of Natural Resources, Division of Parks and Recreation, January 18, 2002. The report is a collection of information from a state-wide survey of UTV/ATV/OHV users. Talks about people's views towards the sport and the way it is managed in the state. Not relevant to wildlife.</li> </ul>

Topic	Comment Summary	BLM Response
Wildlife	The BLM should leave the following routes open because they provide access to DWR's Wildlife Management Areas: SS3180, SS3240, SS2451, SS2444, and SS2445.	DWR's access to Wildlife Management Areas fall under authorized uses (See the EA Section 1.3), which is an allowed use on routes designated as Closed where needed.
Wildlife	The BLM should limit access to the following routes during Desert Bighorn Sheep lambing season from 15 April - 15 May: SS3024, SS3145, SS3115, SS3158, SS3532, SS3123, SS2736, SS2044, SS2174A, and SS2714B. The BLM should also limit special events and prohibit SRPs on these routes during this time period.	<p>One route is Temple Mountain Road, which is a main road (SS2714B). The Goodwater Rim bike trail (SS3024, SS3145) is a actively used bike trail. Some routes access portions of the Goodwater Rim Trail (SS3158, SS3532). Two routes are e-bike routes near the Wedge (SS3123, SS3315). Two routes are cherry-stem routes into wilderness (SS2736, SS2714A).</p> <p>One road leads into Cow/Calf Canyon and connects to SITLA land/roads (SS2044). All but the most used routes and trails are considered for closure in one or more alternatives. However, installing gates and other equipment to facilitate seasonal closures would be difficult due to flat topography and sparse vegetation.</p> <p>Limiting special events and prohibiting SRPs on these routes are outside of the scope of this document.</p>
Wildlife	The following routes provide access to supplemental water sources for wildlife, and the BLM should provide access to those sources under all alternatives for regular maintenance: SS4432, SS2550, SS2553, SS2479, and SS1131.	Maintaining supplemental water sources is important to the BLM. Routes designated as closed will still allow authorized and administrative access (See the EA Section 1.3) in order to maintain these water sources.
Wildlife	The TMA routes are important for the UDWR to manage big game, monitor big game populations, capture wildlife, augment wildlife, sample wildlife disease, manage predators, and research wildlife. The BLM should also address that road closures restrict hunter access and the UDWR's ability to meet management objectives outlined in the species management plan and strategic plans.	Management activities carried out by the UDWR would fall under authorized access (see EA Section 1.3), which is an allowed use on routes designated as Closed where needed. Hunter access is not restricted, though motorized support is limited to designated routes.
Wildlife	Vegetation in the San Rafael Swell consists primarily of pinyon-juniper, sagebrush, and desert brush cover types. Some notable bird species found here are Mexican Spotted Owl, Southwestern Willow Flycatcher, Golden Eagle, Ferruginous Hawk, Peregrine Falcon, Burrowing Owl, Rock Wren and Canyon Wren. The BLM should acknowledge that streams, riparian habitats, and dry washes are	Impacts to rock wren and canyon wren are covered by the general migratory bird analysis (AIB-12). Impacts to peregrine falcon are covered by the general raptor analysis (AIB-12), though they are most likely to occur in the wilderness areas which do not have OHV routes. The impacts to streams, riparian, and dry washes are

Topic	Comment Summary	BLM Response
	most important to migratory species (even dry washes have subsurface water tapped by deep rooted plants which serve as a source of food and cover). The BLM should keep OHVs out of riparian areas and washes to protect wildlife habitat.	analyzed in 3.3.8. The impacts to streams, riparian, and dry washes as bird habitat are addressed in AIB-12.
Wildlife	Table 19 uses two different units of measurement. The BLM should use acres as the only unit of measurement and should assess impacts to big game and upland game birds by using species-specific buffer distances from OHV-open and -limited roads. The BLM should acknowledge that certain big game species, such as elk, respond to and avoid areas with OHV use (see <a href="https://www.fs.usda.gov/pnw/pubs/journals/pnw_2004_wisdom001.pdf">https://www.fs.usda.gov/pnw/pubs/journals/pnw_2004_wisdom001.pdf</a> ), so OHV closures may create beneficial sanctuary zones within the TMA.	The BLM added acres to the analysis for big game and game birds (see AIB-18). The BLM already used acres for all other species as the indicator of habitat impacts and to account for buffers around the open and limited routes. The BLM used miles for big game and game birds as an additional indicator of habitat fragmentation.
Wildlife/ Recreation	The BLM should explain how any route deemed redundant but remaining open to OHVs in an Alternative complies with the 2008 RMP's decisions TRV-4 and WL-8, which state: "To reduce road density, maintain connectivity, and reduce habitat fragmentation, continue to require reclamation of redundant road systems or roads that no longer serve their intended purpose." For example, see SS2624 and SS1172.	Reducing redundant routes within the TMA was a goal in developing the different Alternatives. However, the BLM considered opening some redundant routes in some alternatives considering the purpose and need and impacts of the routes. Of the specifically mentioned routes, SS1172, is being considered for closure in the alternatives and will ultimately receive a designation in the decision record. Route SS2624, does not further habitat fragmentation as it is situated between two nearby routes. Within the Temple Mountain area, routes SS2634, SS2585, SS2587, SS2623, SS2622, SS2586, SS2621, SS2652, SS2612, SS2613, SS2671, and SS2672, among others, are designated as Closed in three of the four alternatives. The Decision Record will explain how any redundant routes remaining open in the Alternative will comply with TRV-4 and WL-8.

## APPENDIX L BIOLOGICAL ASSESSMENT

### United States Department of the Interior Bureau of Land Management

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**San Rafael Swell**  
**Travel Management Plan Biological Assessment**  
**– UPDATE – Nov 2024**  
DOI-BLM-UT-G020-2019-0019-EA

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**November 2024**



BLM

It is the mission of the Bureau of Land Management to sustain the health, diversity,  
and productivity of the public lands for the use and enjoyment of present and future  
generations.

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DOI-BLM-UT-G020-2019-0019-EA

## 1. INTRODUCTION

This consultation concerns the proposed designation of the San Rafael Swell Travel Management Plan (TMP) within the Bureau of Land Management's (BLM) Price (PFO) and Richfield (RFO) Field Offices. This Biological Assessment (BA) describes the actions associated with the proposed project and potential impacts to species and their habitats because of activities associated with the TMP designation. This BA is a site-specific analysis of known occupied, suitable and potential habitats in the vicinity of the San Rafael Swell (TMA). The BLM is consulting on Alternative D (hereafter called the Proposed Action), The BLM is submitting this B.A. pursuant to Section 7(a)(2) of the Endangered Species Act (ESA) to the United States Fish and Wildlife Service (USFWS).

After analysis of effects in the San Rafael Travel management Plan Environmental Assessment DOI-BLM-UT-G020-2019-0019-EA and this biological assessment, the BLM has determined that the Proposed Action *May Affect* and is *Likely to Adversely Affect* Barneby reed mustard (*Schoenocrambe barnebyi*), Colorado Pikeminnow (*Ptychocheilus lucius*), Mexican Spotted Owl (*Strix occidentalis lucida*), and Jones cycladenia (*Cycladenia humilis* var. *jonesii*), Last Chance townsendia (*Townsendia aprica*), San Rafael cactus (*Pediocactus despainii*), Ute ladies'-tresses (*Spiranthes diluvialis*), Winkler cactus (*Pediocactus winkleri*), and Wright fishhook cactus (*Sclerocactus wrightiae*).

The Proposed Action *May Affect* but is *Not likely to Adversely Affect*, bonytail (*Gila elegans*), , humpback chub (*Gila cypha*), razorback sucker (*Xyrauchen texanus*), Southwestern Willow Flycatcher (*Empidonax traillii extimus*), and Yellow-billed Cuckoo (*Coccyzus americanus*). The Proposed Action will not likely jeopardize the continued existence of the monarch butterfly (*Danaus plexippus*)

### 1.1. Background and TMA Overview

The BLM's 2008 Price Field Office Record of Decision and Approved Resource Management Plan (2008 Price RMP), and the 2008 Richfield Field Office Record of Decision and Approved Resource Management Plan (2008 Richfield RMP) each included off road vehicle (also known as, and hereafter called off-highway vehicle or OHV) route designations (see Price RMP Map R-18 and Richfield RMP Map 16). The BLM's regulations at 43 Code of Federal Regulations (CFR) 8340.0-5 define OHVs as any motorized vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain, with limited exclusion. For details on the RMPs' route designation processes see the 2008 Price RMP pages 29-30 and 113-114 and Maps R-17 and R-18 and the 2008 Richfield RMP pages 19-21 and 122-127 and Maps 15 and 16. Since 2008, incomplete implementation of the 2008 route designations and confusing RMP decisions<sup>1</sup> have resulted in a challenging management situation involving user conflicts, resource <sup>1</sup>Examples of confusing RMP decisions include:

## 1. INTRODUCTION

This consultation concerns the proposed designation of the San Rafael Swell Travel Management Plan (TMP) within the Bureau of Land Management's (BLM) Price (PFO) and Richfield (RFO) Field Offices. This Biological Assessment (BA) describes the actions associated with the proposed project and potential impacts to species and their habitats because of activities associated with the TMP designation. This BA is a site-specific analysis of known occupied, suitable and potential habitats in the vicinity of the San Rafael Swell (TMA). The BLM is consulting on Alternative D (hereafter called the Proposed Action), The BLM is submitting this B.A. pursuant to Section 7(a)(2) of the Endangered Species Act (ESA) to the United States Fish and Wildlife Service (USFWS).

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The Proposed Action *May Affect* but is *Not likely to Adversely Affect*, bonytail (*Gila elegans*), , humpback chub (*Gila cypha*), razorback sucker (*Xyrauchen texanus*), Southwestern Willow Flycatcher (*Empidonax traillii extimus*), and Yellow-billed Cuckoo (*Coccyzus americanus*).

The Proposed Action will not likely jeopardize the continued existence of the monarch butterfly (*Danaus plexippus*)

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Since 2008, incomplete implementation of the 2008 route designations and confusing RMP decisions<sup>1</sup> have resulted in a challenging management situation involving user conflicts, resource

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<sup>1</sup> Examples of confusing RMP decisions include:

impacts, user confusion, and public safety challenges. To address these issues, the BLM began inventorying routes in 2011. Then, in a 2017 Settlement Agreement<sup>2</sup> resolving legal challenges to the 2008 RMPs, the BLM agreed to issue a new TMP in the San Rafael Swell Travel Management Area (TMA) (Appendix C, maps 1 and 2). The 2017 Settlement Agreement outlined the process for completing the TMPs.

Therefore, the BLM is conducting travel planning on the 1,149,016 acres of BLM-managed lands in the San Rafael Swell TMA. Additional land ownerships within the TMA are shown in **Table 1-1**. The BLM evaluated 2,161 miles of existing routes within the San Rafael Swell TMA and assigned them a route designation of open, limited or closed.. The BLM also explored alternative opportunities and techniques for avoiding, minimizing, or mitigating project effects with the intention of preventing damage to resources and limiting disruption to use and conflict among users. Routes were left open to OHV use in areas where doing so would involve minimal resource damage or to enable minimal resource damage elsewhere. The result will be a revised travel network which would replace the route designations made in the 2008 RMPs.

**Table 1-1** TMA approximate acreage and percentage by major landowner/agency administrator

Jurisdiction	BLM	State	Private Lands	Total
Acres	1,149,016	155,309	10,000	1,314,325
% of TMA	87%	12%	<1%	100%

- 2008 Price RMP's Map R-18 includes "other" routes which are undesignated (not specified as OHV-open or OHV-limited or OHV-closed) and
- 2008 Price RMP's OHV-7 defers route designations within approximately 5% of the TMA to future activity-level planning.

<sup>2</sup> The 2017 Settlement Agreement was a result of *Southern Utah Wilderness Alliance, et al. v. U.S. Department of the Interior, et al.*, U.S. District Court (D. Utah), Consolidated Case No. 2:12-cv-257. The 2017 Settlement Agreement can be accessed online at [https://eplanning.blm.gov/public\\_projects/nepa/93510/169299/205894/Final\\_Settlement\\_Agreement.pdf](https://eplanning.blm.gov/public_projects/nepa/93510/169299/205894/Final_Settlement_Agreement.pdf)

## 2. PROPOSED ACTION

As shown in Table 2-1, the BLM's PFO and RFO are proposing to designate 2,108 miles of the 2,161 miles of evaluated routes within the TMA as OHV-Open, OHV-Limited, or OHV-Closed<sup>3</sup> to form a travel network<sup>4</sup>. For additional information on how the 2,161 miles were inventoried and evaluated, and how the network was developed, see Appendix F.

Four alternatives (A, B, C, and D) were developed during the planning of the TMP. Because the Proposed Action does not authorize the construction of any new routes, only designating those that currently exist, the variation in amount of impact comes from the route designation differences between alternatives. Alternative A is the no-action alternative and reflects the Current environment of the designated OHV network in the TMA. The PFO and RFO are currently proposing following Alternative D, which is the alternative with a focus on preserving OHV access. It is also the alternative expected to have the greatest potential for impacting ESA-listed species and their habitats within the TMA.

**Table 2-1** Miles of OHV Open, Limited, and Closed designations in each alternative

Designation	Current Environment (Alternative A)	Proposed Action (Alternative D)
OHV-Open/limited	1,429	2,108
OHV-Closed	732	53
Total	2,161	2,161

There are 53 miles of routes included in the evaluated network that are open in the existing TMP but are receiving negligible to no use from the public, have a known resource issue that needs to be resolved, or are otherwise not sustainable. BLM has proposed closing those routes in the Proposed Action.

The designated network will be implemented, operated, and maintained according to the Implementation Guide found in Appendix G of this document. Although some forms of implementation-related management were specified in conjunction with designations during route evaluation, the following activities identified in the TMP Implementation Guide would occur with any of the alternatives described above. All surface disturbing implementation activities described below will continue to follow the BLM-Committed Conservation Measures and Species-Specific

<sup>3</sup> OHV-Open is defined as a route where OHV travel is permitted. There are no special restrictions or no compelling resource protection needs, user conflicts, or public safety issues to warrant limiting the timing or season of use, the type of OHV, or the type of OHV user.

OHV-Limited is defined as a route where OHV travel on routes, roads, trails, or other vehicle ways is subject to restrictions to meet specific resource management objectives. Examples of restrictions include numbers or types of vehicles; time or season of use; permitted or licensed use only; or other restrictions necessary to meet resource management objectives, including certain competitive or intensive uses that have special limitations.

OHV-Closed is defined as a route where OHV travel is prohibited. Access by means other than OHVs, such as by motorized vehicles that fall outside of the definition of an OHV or by mechanized or non-mechanized means, is permitted. The BLM designates routes as closed to OHVs if necessary to protect resources, promote visitor safety, reduce use conflicts, or meet a specific resource goal or objective.

<sup>4</sup> A travel route network is defined as the routes occurring on public lands or within easements granted to the BLM that are recognized, designated, decided upon, or otherwise authorized for use through travel and transportation management decisions (BLM, 2016).

BLM Committed Conservation Measures described in Appendix D of the Price and Appendix 14 of the Richfield Field Offices Proposed Resource Management Plan and Final Environmental Impact Statement (BLM 2008b and BLM 2008d) and summarized in Appendix E of this document.

The travel route network will be signed to identify routes and inform the public of locations, special conditions, and limitations. Activities associated with signage include ground disturbance (post hole digging minor grading) and may involve minor vegetation removal. Sign placement will be done in previously disturbed areas where available but may include previously undisturbed areas (outside the roadway and shoulder).

Maintenance of routes could be categorized into one of two categories: 1) routine maintenance that meets the purpose and need of the route and that does not extend beyond the edge of previous route disturbance; or 2) maintenance of a route that exceeds the standard of routine maintenance by either upgrading, widening, re-aligning, or otherwise creating new surface disturbance. Examples of activities within Category 1 include normal grading of the travel surface, repair of an existing culvert. Examples of activities that would be within Category 2 include installation of a new or larger culvert, changing the surface of the road from gravel to paved, installation of a low water crossing. Maintenance of designated routes would typically be conducted as described in the first category. Maintenance of designated routes that fall into the second category (i.e., more than routine) would be conducted only after additional site-specific analysis, including appropriate consultation for cultural resources and Federally listed species..

### 3. AFFECTED SPECIES AND ANTICIPATED IMPACTS

#### 3.1 Overview

A list of all ESA threatened, endangered, candidate and proposed species potentially occurring in the project area is provided in Appendix D. Based on a desktop review which included a review of recorded occurrences, known range, habitat requirements and discussions with the USFWS, it was determined that 15 listed species, listed in Table 3-1, have potential habitat within the Action Area and may be impacted by OHV designation in the TMA. The Action Area is the San Rafael Swell TMA.

**Table 3-1** Species with potential habitat that may be impacted by OHV designations in the TMA

Common Name, Scientific Name	Conservation Status
Animals	
Bonytail chub, <i>Gila elegans</i>	Endangered
Colorado Pikeminnow, <i>Ptychocheilus lucius</i>	Endangered
Humpback Chub, <i>Gila cypha</i>	Threatened
Razorback Sucker, <i>Xyrauchen texanus</i>	Endangered
Mexican Spotted Owl, <i>Strix occidentalis lucida</i> ,	Threatened
Southwestern Willow Flycatcher, <i>Empidonax traillii extimus</i>	Endangered
Yellow-billed Cuckoo, <i>Coccyzus americanus</i>	Threatened
Monarch butterfly, <i>Danaus plexippus</i>	Candidate
Plants	
Barneby reed-mustard, <i>Schoenocrambe barnebyi</i>	Endangered
Jones Cycladenia, <i>Cycladenia humilis</i> var. <i>jonesii</i>	Threatened
Last Chance townsendia, <i>Townsendia aprica</i>	Threatened
San Rafael cactus, <i>Pediocactus despainii</i>	Endangered
Ute's Ladies' Tresses, <i>Spiranthes diluvialis</i>	Threatened
Winkler cactus, <i>Pediocactus winklerii</i>	Threatened
Wright fishhook cactus, <i>Sclerocactus wrightiae</i>	Endangered

#### 3.2 General Assumptions

The BLM applied the following general assumptions in analysis of the proposed travel route network's effects on each species:

- Open route designations have the potential to be detrimental to ESA-listed species and their habitats. Routes designated as closed to OHV travel would serve to minimize these effects on ESA-listed species by restricting access and reducing the associated human use of these habitats. The need to protect sensitive resources was considered in conjunction with the idea that maintaining diverse networks, which provide varied travel opportunities, can help to disperse users, diffuse user-related impacts, and reduce the inclination of users to travel

off-route. Designations that limit OHV use and minimize potential for off-route travel are considered beneficial for ESA-listed species while still permitting authorized access for habitat management.

- The temporal scope of impacts from the TMP would include the life of the plan and reclamation. The BLM assumes both the TMP and reclamation to take approximately 20 years. Therefore, the timeframe of impacts analyzed in this B.A. is 20 years.
- Mileages, percentages, acreages, and other quantities used in this analysis are approximate projections for comparison and analytical purposes only; they are not intended to reflect exact measurements or precise calculations.
- The five most popular recreation opportunities within the Buckhorn/Wedge and Temple Mountain Recreation Management Zones (RMZs; i.e., the Wedge Overlook, Buckhorn Draw, Wild Horse Road, Temple Wash/Temple Mountain, and Little Wild Horse Canyon) account for 41.5 percent of recreation visits to the TMA based on data collected by site-specific vehicle counters. Visitation to these areas would not meaningfully change across the range of alternatives.
- Public land users operate their OHVs in accordance with the TMP designations and the regulations.
- As part of OHV use of designated routes, OHVs may occasionally need to pull off for purposes of passing or parking. The BLM documented known off-route parking areas on evaluated routes in the Route Reports (Appendix B of the EA).
- Wide, high use routes typically have adequate room or pull-off locations for passing or parking (e.g., additional existing width from roadside ditches, drain dip outlets, or spur route intersections). For analysis purposes, the routes identified as “roads” in the route evaluation process, totaling 413 miles, are assumed to have room for parking or passing.
- Pulling completely off a route for passing or parking only occurs on the narrow, low use routes but it is infrequent because of the low use. When vehicles do have to park or pass along narrow, low use routes, they pull off the designated route to the minimum extent possible to safely park. For analysis purposes, the routes identified as “primitive road, trail, primitive route, temporary route, or transportation linear disturbance”, totaling 1,748 miles, are the narrow, low use routes where parking or passing may infrequently occur.
- The Richfield RMP stipulations for Travel Management Decision (TRC) addressed parking and camping. TRC-30 states “Allow motor vehicles to pull off a designated route up to 50 feet of either side of the centerline for the purpose of parking or staging. TRC-31 states “Allow motor vehicles to use existing spur routes for ingress and egress to established campsites within 150 feet of designated routes. (Previous campsites can be

distinguished by evidence of rock fire rings, old tent sites, and tracks from earlier vehicle access). This does not authorize creation of new campsites or travel ways. Route specific resource data documented during route evaluations, which document resources within at least 150 feet of all routes, shows that the resources present within the off-route allowances are the same as or substantially similar to those associated with the route BLM is proposing to designate as OHV-Open or -Limited. There are approximately 140 miles of evaluated routes subject to TRC-30 and TRC-31 in the Richfield RMP.

### **3.3 Aquatic Animals**

#### **3.3.1 Effects Common to All Endangered Fish Species**

The Green and Colorado River and the associated 100-year floodplain and tributaries provide habitats for four fish listed under the ESA; bonytail chub, Colorado pikeminnow, humpback chub, and razorback sucker. Designated critical habitat for the four ESA listed species occurs on the Green and the Colorado Rivers at least 20 river miles outside the TMA. Within the TMA, the Price River and San Rafael River, tributaries to the Green River, have recorded usage by the ESA-listed fish. However, the habitat is limited due to dewatering of the rivers and the presences of diversions. The Hat Ranch Diversion on the San Rafael River is in the southern portion of the TMA, near the southern edge of the TMA and blocks upstream fish movement from the Green River, effectively limiting potential ESA listed fish habitat to below the Hat Ranch Diversion. Near the diversion, Colorado pikeminnow, bonytail chub, and razorback sucker have been detected through monitoring efforts.

Details on habitat, threats, and trends for the fish discussed below can be found in the *Biological Opinion for BLM Resource Management Plan, Price Field Office* (USFWS 2008a), the “Special Status Species” and “Fish and Wildlife” sections of the *Price Proposed RMP/EIS* (BLM 2008b, pages 3-36 to 3-59), *Biological Opinion for BLM Resource Management Plan, Richfield Field Office* (USFWS 2008b), the “Special Status Species” and “Fish and Wildlife” sections of the *Richfield Proposed RMP/EIS* (BLM 2008d, pages 3-36 to 3-59), and NatureServe Explorer (NSE 2024). Additional habitat/threat/trend information sources are listed under each species.

The published area of influence (AOI) is the area identified by the USFWS as the potential range of the species and is used as the habitat analysis area for each species. The Colorado pikeminnow, bonytail chub and razorback sucker all have AOIs that overlap the TMA (Appendix C, map 3 and 4). The humpback chub AOI does not overlap any area in the TMA. AOI data was sourced from USFWS Information Planning, and Consultation System (USFWS 2024b). The Price RMP considers the 100 year floodplain as areas equal to the 100-year floodplain or 100 meters on either side from center line, whichever is greater, along all perennial and intermittent streams, streams with perennial reaches, and riparian areas. Miles of route within the AOIs for each species and within the 100-year flood plain are shown in Tables 3-2 and 3-3, number of bridge crossings are shown in Figure 3-1.

The Proposed Action would occur within the AOI of three ESA-listed fish and could impede achieving recovery goals included in the Recovery Plans (USFWS 2023a, USFWS 2002a). There

is no critical habitat within the TMA; however, impacts to the tributaries could influence critical habitat present downstream. The use of route networks within the TMA that come within the 100-year floodplain or in direct contact with streams and washes can influence habitat suitability for ESA-listed species downstream of the TMA. The Proposed Action would increase the miles of routes open to OHV use within the TMA. Currently all the evaluated routes exist on the ground and receive use by the public. This TMP effort would designate the existing routes as open to OHV use; the proposed TMP designations would occur entirely within the existing route footprint so minimal ground disturbance would occur as a result of the TMP. OHV travel across streambeds and washes can increase sediment loading in streams, which can then decrease water quality, increase stream temperature, reduce dissolved oxygen levels, and can reduce the supply of invertebrate food supply for fish. Stream crossings outside of an AOI can potentially cause impacts farther downstream in an AOI for ESA-listed. Actions that take place up-stream from the TMA could make it difficult to distinguish the increased impacts of the Proposed Action from other background influences such as water depletions. Water depletions and reduction in habitat availability have contributed to the largest challenges for ESA-listed species in persisting in the Green River system (1994 59 FR 13374).

TMP route use will result in the continuation of a variety of indirect and direct effects that may be expected to increase over time due to increase in recreation and visitation and not as a result of the proposed TMP designation. The proposed TMP designation is not expected to change current visitation growth rates; therefore, the effects of the TMP designation analysis presented in the 2008 Biological Opinions (USFWS 2008a and b) are still applicable. As discussed in the 2008 Biological Opinions travel management decisions could result in direct and indirect adverse effects to special status fish species due to increased habitat modification associated with surface disturbance and sedimentation resulting from OHV use, hiking, and equestrian use.

Direct effects could occur within the AOI because TMP routes open for OHV use occur within the AOI and the 100-year floodplain riverine habitats that occur within the TMA; therefore, direct impacts to endangered fish are possible but are likely to be rare due to no occurrences detected near the low water crossing and the common dewatering of the Price and the San Rafael rivers within the TMA. Indirect effects from travel management as identified in the 2008 Biological Opinions (USFWS 2008a and b), can increase sediment loading in streams, which can then decrease water quality, increase stream temperature, reduce dissolved oxygen levels, and can reduce the supply of invertebrate food supply for fish. This could alter a specific hydraulic water regime which is required by a particular life stage for each species.

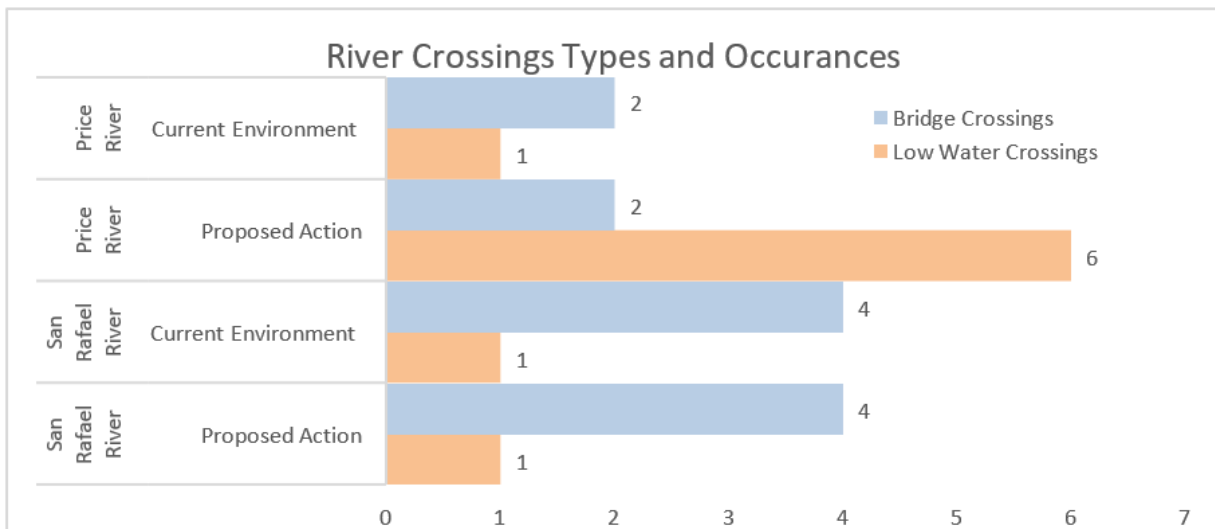
**Table 3-2** Miles of routes within the AOI of ESA-listed fish

	AOI in TMA (Acres)	Current Environment (Alt A) (Miles)		Proposed Action (Alt D) (Miles)	
		Open to OHV use	Closed	Open to OHV use	Closed
Bonytail Chub	848	1.4	1	2	<0.5
Colorado Pikeminnow	11,831	13.5	23	36.5	.5
Humpback Chub	0	0	0	0	0
Razorback Sucker	848	1.4	1	2	<0.5

**Table 3-3** Miles of routes within the 100-year flood plain

	Current Environment (Alt A) (Miles)		Proposed Action (Alt D) (Miles)	
	Open to OHV use	Closed	Open to OHV use	Closed
Price River	4.5	4.8	9.4	0
San Rafael River	2.5	1.95	4.4	0

Within the TMA there are both bridge and low water crossings of the Price and San Rafael Rivers. All bridge crossings occur on routes designated as open to OHV use with the existing management plan (Alt A) and in the Proposed Action (Alt D). Because there is no change in the number or location of the bridge crossings between the alternatives, the effects due to the bridge crossing is expected to stay the same. The San Rafael River has four bridge crossings, two of which are major designated roadways, I-70 and US-24. The Price River has two bridge crossings, one of those being the major designated roadway, US-6.

**Figure 3-1** Number of stream crossings in the Price and San Rafael Rivers within the TMP

The low water crossings change between the existing conditions (Alt A) and the Proposed Action (Alt D) for the Price River. The Proposed Action would increase the number of designated routes with low water crossings on the Price River from one to six within the TMA. The San Rafael River low water crossing would stay the same between alternatives, one low water crossing located on a state Wildlife Management Area at Fuller's Bottom.

Bridges and low water crossing have a direct influence on stream morphology. Depending on bridge design, impacts can include impeding the ability of fish to migrate past bridges structures or influencing stream morphology to a level that would complicate fish passage. Low water crossings can directly impact waterways by changing the structure of the stream and increasing impacts downstream through increased erosion and streambed compaction. These effects can indirectly decrease water quality and lower food supply.

TMP implementation activities that could affect ESA-listed fish species include ground disturbing activities such as category 1 route maintenance (i.e., surface and ditch blading) mulching, raking, seeding of closed routes, and sign placement (scraping away vegetation and digging post holes). These activities could contribute to sedimentation and impairment by increasing the amount of soil and other materials transported into waterways.

Many of these potential effects are likely to be temporary because not all implementation actions would occur on a regular basis, and disturbed areas are expected to revegetate. Some of the activities listed above and other implementation activities could have a positive effect on water resources. For example, sign placement could encourage managed travel on stable designated routes less disruptive to waterways; drainage structures installed at appropriate intervals and locations (i.e., with adequate buffer areas at outlets) could help minimize route-related erosion and sediment transport into waterways; and seeding and planting over closed routes could help reestablish native vegetation communities, thereby improving the soils' resiliency to water impairment-related erosion. Planning and management activities in the Price River and San Rafael River have been aimed to improve habitat availability for fishes of the Upper Colorado River Basin (Laub 2013, Laub 2020).

### **3.3.2. Cumulative Effects**

The geographic scope of cumulative effects analysis (i.e., the cumulative effects analysis area) includes the TMA and the Price and San Rafael River because of the potential effects that can occur to the species downstream. Impacts and activities outside of the TMA can influence the nature of the Price and San Rafael River. Outside activities could include changes in water management, sedimentation, irrigation, land management practices, and riparian alterations. These actions can be indistinguishable from the activities of the TMA and raises challenges in fully quantifying the cumulative effects on the Price and San Rafael River. Water in the TMA moves through the system from the west to the south towards the Green River, which is Designated Critical Habitat for ESA-listed fish. The impacts in the Price and San Rafael River will be from increase sediment loading in streams, which can then decrease water quality, increase stream

temperature, reduce dissolved oxygen levels, and can reduce the supply of invertebrate food supply for fish. It is recognized that actions upstream could be affecting conditions in the TMA, but decisions in this TMP will not have additional upstream effects. Past, present, or reasonably foreseeable actions, plans, or projects impacting water quality, riparian areas, and wetlands in the TMA include the 2003 San Rafael Route Designation Plan, the 2008 Price RMP, ground-disturbing activities such as San Rafael River restoration (which is ongoing), Price River Restoration (ongoing work), OHV use and related recreation use, and other ongoing surface disturbing activities in/near aquatic areas such as route maintenance, cattle grazing, and those that are agriculture-related are documented in the San Rafael River Restoration Plan and the Price River Restoration Plan (Laub 2013, Laub 2020).

### **3.3.3. Species Specific Information and Impacts**

#### *3.3.3.1 Bonytail (Gila elegans) – Endangered*

The bonytail chub was listed as endangered on April 23, 1980 (USFWS 1980). No Designated Critical Habitat for the bonytail chub occurs within the TMA and the nearest designated critical habitat on the Green River is approximately 22 river miles away from the TMA along the Price River and 73 river miles along the San Rafael River and upstream on the Green River. The bonytail AOIs occurs below the Hat Ranch diversion on the San Rafael River (Appendix C, map 3).

The bonytail is a sizeable fish species endemic to the large rivers of the Colorado River Basin, however there are currently no self-sustaining populations of bonytail chub in the Upper Colorado River Basin. Within the perennial waters of the TMA, bonytail have been stocked in the Price and San Rafael Rivers near the Green River (USFWS 2024a). Tributaries, like the Price and San Rafael River are thought to be one of the key components for different life stages of bonytail chub in the Green River system. The primary threats to bonytail chub are stream flow regulation and habitat modification; also, competition and predation by nonnative fishes; hybridization with other native *Gila* species; poor land-use practices, degraded water quality, pesticides and pollutants (USFWS 2002). The existing habitat, altered by these threats, has been modified to the extent that it impairs essential behavior patterns, such as breeding, feeding, and sheltering. (USFWS 2002).

The PFO BLM and partners have monitored the Price and San Rafael River using remote passive integrated transponders (PIT) and antennas for several years, and there have been no detections of bonytail chub in the TMA (USFWS 2018b). For more details on habitat, threats, and trends, see the Bonytail Chub (*Gila elegans*) Recovery Goals: Amendment and Supplement to the Bonytail Recovery Plan and Bonytail (*Gila elegans*) 2024 5-year status review (USFWS 2002a, USFWS 2024a).

As shown in Table 3-4, the Proposed Action would increase the miles of routes open to OHV use within the 849 acres of AOI from approximately 1 to 2 miles. The number of low water crossings within the AOI will not change and will remain at zero. However, within the TMA the number of low water crossings open to OHV use would increase from 1 to 6 on the Price River. Increases in numbers of low water crossings open to OHV use on the Price River could alter the physical and biological features of the river potentially impacting the establishment of bonytail chub in the Price

River. Impacts to bonytail from the change are expected to be minimal because the routes and the low water crossings currently exist. The Proposed Action would increase the number of low water crossings open to OHV use, but not create new or additional crossings. The low water crossings designated in Proposed Action occur up stream of the HWY 6 bridge on the Price River and at least 22 miles from the Green River and the designated critical habitat for bonytail chubs. In addition, much of the recreation use occurs in the summer when the Price River is nearly dewatered, thus limiting the effects of the crossing like turbidity. There would be no direct impacts because bonytail chubs have not been detected within the TMA, with no self-sustaining reproducing populations in the Upper Colorado River Basin, increased impacts to tributaries could potentially hinder the ability for a self-sustaining population to establish in the future.

**Table 3-4** Miles of routes within AOI for Bonytail chub, and acres of AOI affected by routes (percentages are out of total miles within habitat and acres of AOI within the TMA)

Acres of AOI = 849	Current environment (Alt A)				Proposed Action (Alt D)			
Designation	Miles	Percent of miles	Acres Affected	Percent of AOI	Miles	Percent of miles	Acres Affected	Percent of AOI
OHV Open/Limited	1	50	475	56%	2	100%	630	74%
OHV Closed	1	50	161	19%	0	0	0	0

Based upon the effects described in 3.3.1 and 3.3.3.1 the Proposed Action could add to cumulative effects for the bonytail chub. However, due to the spatially small scale of impact of the Proposed Action, increasing the open miles within the AOI from 1 to 2, the fact that there will be no new construction of routes, and the absence of bonytail chub detections in the San Rafael and Price Rivers within the TMA, the Proposed Action *May Affect* but is *Not Likely to Adversely Affect* the bonytail chub and its Designated Critical Habitat.

#### 3.3.3.2. Colorado Pikeminnow (*Ptychocheilus lucius*) – Endangered

The Colorado pikeminnow was federally listed as an endangered species in 1967, before being fully protected by the ESA on January 4, 1974. There is no Designated Critical Habitat within the TMA, but the perennial streams in the TMA connect to the Green River where critical habitat is present for Colorado Pikeminnow. The nearest designated critical habitat on the Green River is approximately 22 river miles along the Price River east of the TMA. The Colorado pikeminnow has the largest AOI within the TMA, covering the Price River and the lower section of the San Rafael River below the Hatt's Ranch diversion (Appendix C, map 4). This AOI is within the Green River subbasin analysis unit (USFWS 2022a). Analysis units are delineated by dams and reservoirs, and further refined by reaches where population size is estimated and demographic processes are thought to be largely independent.

The Colorado pikeminnow is endemic to the Colorado River Basin. Colorado pikeminnow have been detected in the San Rafael River and Price River within the TMA with the use of PIT tags.

Colorado Pikeminnow will migrate in and out of tributaries of the Green River seasonally for various life stages such as the Price and San Rafael River. The Green River subbasin analysis unit is the least regulated sub basin and maintains variable peak flows from the tributaries like the Yampa and to a smaller extent the Price and the San Rafael Rivers. However, water depletions have dewatered the Price and the San Rafael River during portions of the year. Stressors identified for the Colorado pikeminnow include reductions to natural flow regimes, water temperature depression as a result of hypolimnetic releases from large dams, physical barriers to movement and the loss of quality habitat and connectivity. For more details on habitat, threats, and trends see *Species Status Assessment for the Colorado pikeminnow* (USFWS 2022b), *Final Recovery Plan for Colorado Pikeminnow* (USFWS 2023a) and *Colorado Pikeminnow (Ptychocheilus lucius) 5-Year Status Review: Summary and Evaluation* (USFWS 2022a).

As shown in Table 3-5, the Proposed Action would increase the mileage of routes open to OHV use within the 11,840 acres of AOI from approximately 14 to 37. The number of low water crossings open to OHV use within the AOI will increase from 1 to 6 on the Price River. Increases to low water crossings open to OHV use on the Price River could alter the physical and biological features of the river potentially impacting the establishment of Colorado pikeminnow in the Price River. Impacts to Colorado pikeminnow from the change are expected to be minimal because the routes and the low water crossings currently exist. By designating them open to OHV use, the action would increase the number of low water crossings open to OHV use, but not create new or additional crossings. The low water crossings designated in Proposed Action occur up stream of the HWY 6 bridge on the Price River and at least 22 miles from the Green River and the designated critical habitat for the Colorado pikeminnow. In addition, much of the recreation use occurs in the summer when the Price River is nearly dewatered, thus limiting the effects of the crossing like turbidity.

**Table 3-5** Miles of routes within the AOI for Colorado pikeminnow, and acres of AOI affected by routes (percentages are out of total miles within habitat and acres of AOI within the TMA)

Acres of AOI = 11,840	Current Environment (Alt A)				Proposed Action (Alt D)			
Designation	Miles	Percent of miles	Acres Affected	Percent of AOI	Miles	Percent of miles	Acres Affected	Percent of AOI
OHV Open/Limited	14	38%	6,390	54%	37	100%	10,536	89%
OHV Closed	23	62%	4,167	35%	0	0		

Based upon the effects described in 3.3.1 and 3.3.3.2, the additional miles of routes open to OHV use will add slightly to cumulative affects against Colorado pikeminnow. Due to the scale and level of impact of the Proposed Action, increasing the milage of routes from 14 to 37 within the AOI, the Proposed Action *May Affect and is Likely to Adversely Affect* the Colorado pikeminnow and its critical habitat.

#### 3.3.3.3. *Humpback Chub (Gila cypha)* – *Threatened*

Humpback Chub is endemic to the Colorado River Basin, inhabiting disjunct canyon areas of the Colorado and Green River (USFWS 2018a). The Humpback Chub is a federally listed fish that on January 22, 2020, was downlisted to threatened. For more details on habitat, threats, and trends, see *Species Status Assessment for the Humpback Chub (Gila cypha)* (USFWS 2018a).

The primary threats to humpback chub are stream flow regulation and habitat modification; competition with and predation by nonnative fishes; parasitism (Asian tapeworm); hybridization with other native *Gila* species; pesticides and pollutants (USFWS 1990). The existing habitat, altered by these threats, has been modified to the extent that it impairs essential behavior patterns, such as breeding, feeding, and sheltering. Although historic data are limited, the apparent range-wide decline in humpback chub is likely due to a combination of factors including alteration of river habitats by reservoir inundation, changes in stream discharge and temperature, competition with and predation by introduced fish species, and other factors such as changes in food resources resulting from stream alterations (USFWS 1990). Also, extensive human alterations throughout the basin prior to faunal surveys may have depleted or eliminated the species from some river reaches before its occurrence was documented.

There is no Designated Critical Habitat within the TMA nor does the species AOI intersect the TMA. Critical habitat for Humpback chub is confined to disjunct canyon areas characterized by rocky habitat and swift currents (USFWS 2018a). The Price and San Rafael River in the TMA connect to the Green River where critical habitat is present for Humpback Chub. No detections of observations have occurred within the Price or San Rafael through monitoring efforts or the use of PIT antennas. Detections have occurred near the confluence of the Price River. The populations that could possibly utilize the Price River and San Rafael River would be the Desolation/Gray Canyon population, and in recent years the population has declined (USFWS 2018a). Designated Critical Habitat occurs in the Green River about 15 miles east of the TMA in Desolation and Gray Canyons. (DOI 2023c).

The Proposed Action would increase miles of routes open to OHV use within the AOI of ESA listed fish (Table 3-2), miles of routes open to OHV use within the 100-year floodplain (Table 3-3), and numbers of stream crossings open to OHV use. (Figure 3-1). Increased mileage of routes designated open to OHV use and increased number of low water crossings on the Price River open to OHV use has potential to impact suitable habitat for Humpback Chub based upon the effects described in section 3.3.1 and 3.3.3.3. There are currently no acres being impacted by the Current environment and no additional acres will be impacted under the Proposed Action. The additional designated routes will add to cumulative affects against Humpback chub. However, due to the scale and level of impact of the Proposed Action and no new routes being created, the Proposed Action *May Affect* but is *Not Likely to Adversely Affect* the Humpback Chub and its critical habitat.

#### 3.3.3.4. *Razorback Sucker (Xyrauchen texanus)* – *Endangered*

The Razorback Sucker is an endemic fish species to the Colorado River Basin, including the Green River. The Razorback Sucker was first listed on October 23, 1991 (56 FR 54957). Critical habitat for the Razorback Sucker was determined on March 21, 1994, in the Green River (59 FR 13374).

Within the Upper Colorado River Basin Razorback Suckers spawn in major tributaries such as the Green River and the Yampa. There is no Designated Critical Habitat within the TMA, but the Price and San Rafael River in the TMA connect to the Green River where critical habitat is present for Razorback Sucker. In the TMA, the razorback sucker has been detected on the Price and San Rafael River through the use of remote passive integrated tag (PIT) antennas (USFWS 2018b). Designated Critical Habitat for this species includes approximately 73 miles of the Green River that is approximately 22 miles from the eastern boundary of the TMA (DOI 2023d). For more details on habitat, threats, and trends see the *Species Status Assessment for the Razorback Sucker *Xyrauchen texanus** (USFWS 2018b).

As shown in Table 3-6, the Proposed Action would increase the mileage of routes open to OHV use within the 849 acres of AOI from approximately 1 to 2. The number of low water crossings within the AOI will not change and will remain at zero. However, within the TMA the number of low water crossings would increase from 1 to 6 on the Price River. Increased number of low water crossings on the Price River open to OHV use could alter the physical and biological features of the river potentially impacting the continued observations of razorback sucker in the Price River. Impacts to razorback sucker from the change are expected to be minimal because the routes and the low water crossings currently exist. By designating the routes open to OHV use, the action would increase the number of low water crossings open to OHV use, but not create new or additional crossings. The low water crossings designated in Proposed Action occur up stream of the HWY 6 bridge on the Price River and at least 22 miles from the Green River and the designated critical habitat for razorback suckers. In addition, much of the recreation use occurs in the summer when the Price River is nearly dewatered, thus limiting the effects of the crossing like turbidity. There would be no direct impacts because bonytail chubs have not been detected within the TMA, with no self-sustaining reproducing populations in the Upper Colorado River Basin, increased impacts to tributaries could potentially hinder the ability for a self-sustaining population to establish in the future.

**Table 3-6** Miles of routes within AOI for razorback sucker, and acres of AOI affected by routes (percentages are out of total miles within habitat and acres of AOI within the TMA)

Acres of AOI = 849	Current Environment (Alt A)				Proposed Action (Alt D)			
Designation	Miles	Percent of miles	Acres Affected	Percent of AOI	Miles	Percent of miles	Acres Affected	Percent of AOI
OHV Open/Limited	1	50	475	56%	2	100%	630	74%
OHV Closed	1	50	161	19%	0	0	0	0

Based upon the effects described in 3.3.1 and 3.3.3.1 the Proposed Action could add to cumulative effects for the Razorback Sucker. However, due to the spatially small scale of impact of the Proposed Action, increasing the open miles within the AOI from 1 to 2, and the fact that there will be no new construction of routes, the Proposed Action *May Affect* but is *Not Likely to Adversely Affect* the razorback sucker and its Designated Critical Habitat.

### **3.4. Terrestrial Animals**

#### **3.4.1. Effects Common to All Terrestrial Animal Species**

OHV activity has been shown to have negative effects on terrestrial animal species and their habitats (USGS 2007). These effects can be direct or indirect. Direct effects can include mortality either from collisions with OHVs or via access provided for recreational shooting that results in deliberate targeting of animals. Indirect effects can include users traveling off designated routes (by foot, OHV, or other means), causing alteration or destruction of foraging, burrowing, or nesting habitats (USGS 2007).

Within the TMA, the effects of OHV use are expected to primarily be indirect. Many animal species respond to human presence in the same ways they respond to predator presence (Lasky & Bombaci 2023). Zeller et al noted that mammals were sensitive to group size and to sounds of recreation (Zeller et al 2024). This results in increased expenditures of time and energy towards avoiding humans and decreased expenditures of time and energy towards beneficial activities like foraging or caring for young. Even when users remain on established routes, disturbance from OHV and non-motorized use can cause behavioral changes resulting in increased flight and vigilance and the disruption or displacement of breeding, nesting, and foraging activities. Because of this, travel routes that go through or habitat are of concern.

Noise, like that produced by OHVs, can affect nest-site selection and mask biologically important sounds, such as mating call behavior as well as predator and prey sounds (Halfwerk et. al. 2016). Disturbance duration can vary from abrupt and brief, such as a single car passing by, to extended disturbance resulting from high traffic volumes on a busy holiday, dispersed camping taking place within nesting or foraging habitat, etc. Accordingly, species' response durations may also range from brief, immediate behavioral responses, such as alerting or flushing, to long-term responses, such as abandoning preferred habitat, either of which can reach a level that they ultimately affect reproductive success of individuals and populations (e.g., abandoning nest with eggs, unsuccessful mating attempts, incapability locating a suitable mate, etc.). Species specific research is largely lacking, and of those studied, effects were not consistent from population to population. However, for species which are affected by prolonged or repeated exposure to anthropogenic noise, the impacts can be long-lasting. These behavioral changes can cause declines in abundance and occupancy, reduced reproductive success, and altered species richness and community composition (Larson et al. 2016, Habib et. al. 2007). Other indirect effects include habitat fragmentation from route networks, loss of woody habitat from firewood cutting, loss of hydrologic function in riparian areas from travel route compaction, and the introduction of noxious weeds and invasive species (from OHV and use-related soil disturbance), which can displace native vegetation utilized for foraging, security and thermal cover, nesting, etc.

Routes designated as open to OHV use may contribute to threats like those described above and be detrimental to ESA-listed animals and their habitats. Currently all the evaluated routes exist on the ground and receive use by the public. This TMP effort would designate the existing routes as

open to OHV use; the proposed TMP designations would occur entirely within the existing route footprint so minimal ground disturbance would occur as a result of the TMP. Routes designated as “OHV Closed” would serve to minimize these effects by restricting access to sensitive habitats and reducing the associated human use of these habitats.

TMP implementation activities that could affect ESA-listed animals and their habitats include installing new signs, route maintenance (grading, installing water control structures, etc.), route decommissioning or reclamation (including ripping the ground and planting seed, grading/recontouring), or installing fencing or barriers. Ground disturbance and loss of habitat from sign installations would be temporary, as these areas are likely to revegetate. Seeding and planting on closed routes could accelerate reclamation and help to reestablish habitat. Installation of signs, barriers, and other permanent structures outside of existing route footprint could result in a minor loss of habitat.

For more details on species-specific travel-related effects, see the *Price PRMP/EIS* (BLM 2008a), the *Price Biological Opinion* (USFWS 2008a), the *Richfield PRMP/EIS* (BLM 2008c), the *Richfield Biological Opinion* (USFWS 2008b).

### **3.4.2. Cumulative Effects**

Past planning and management actions that have affected ESA-listed animals and habitats within the cumulative effects analysis areas include the 2008 *Price PRMP* and the 2008 *Richfield PRMP*. Other past, present, and reasonably foreseeable actions include solar developments, oil and gas development, mining, road construction, livestock grazing, mineral material site development, and ongoing or increased recreation-related activities such as OHV use and vehicle exploring, hunting, horseback riding, hiking, camping, geocaching, wildlife watching, etc. Current management actions include the San Rafael River restoration. See the *San Rafael River Restoration Plan* (Laub 2013) for more details.

Cumulative effects to ESA-listed terrestrial animals from past, present, and reasonably foreseeable projects include disturbance or displacement; reduced genetic diversity and reproductive success; alterations in species richness and community composition; damage to nesting, burrowing, brooding, security, and foraging habitat; mortality from impacts with OHV vehicles or illegal shooting; loss of habitat; habitat fragmentation, and mitigation/minimization of some of these impacts from planning.

### **3.4.3. Species Specific Information and Impacts**

#### *3.4.3.1 Mexican Spotted Owl (Strix occidentalis lucida) – Threatened*

The Mexican Spotted Owl is a medium-sized owl that occurs in the forested mountains and canyonlands of the southwestern United States and Mexico. The 2012 Mexican Spotted Owl Recovery Plan identifies five Ecological Management Units (EMUs) in the United States, based on: physiographic provinces, biotic regimes, perceived threats to habitat or individual birds, administrative boundaries, and owl distribution (USFWS 2012). These EMUs are the Colorado Plateau, Southern Rocky Mountains, Upper Gila Mountains, Basin and Range-West, and Basin

and Range-East. The San Rafael Swell TMA falls within the Colorado Plateau Ecological management unit. In this unit the species primarily inhabits deep, steep-walled canyons and hanging canyons (USFWS 2012). Threats to owls in this EMU include recreation and climate change (USFWS 2023e). Recreation use including hiking, camping, canyoneering, and OHV use is a primary use of the modeled habitat within the TMA and could be a major influence on the habitat and the owls. Owls use narrow canyons where they have less opportunity to move away from human activity, which compounds the potential for recreation to negatively affect owl presence and recovery (USFWS 2023e). Likely due to the rocky canyon habitat with limited vegetation, wildland fire is not a major influence within this EMU or within this TMA. For additional details on Mexican Spotted Owl habitat, threats, and trends see the *Mexican Spotted Owl Recovery Plan* (USFWS 2012) and the *Mexican Spotted Owl (Strix occidentalis lucida) 5-Year Status Review* (USFWS 2023e)

The Recovery Plan recognizes two models, the 1997 Willey-Spotskey's MSO Habitat Model (Willey and Spotskey, 1997) and the 2000 Willey-Spotskey's MSO Habitat Model (Willey and Spotskey, 2000), to be used as tools to identify and protect MSO habitat. The 1997 Willey-Spotskey's MSO Habitat Model (1997 Model) is recognized as a broader estimate of habitat, whereas the 2000 Willey-Spotskey's MSO Habitat Model (2000 Model) may underestimate owl habitat, particularly foraging, winter, and dispersal habitat. The 1997 Willey-Spotskey model was used during this large scale TMP effort. As shown in Table 3-7, within the TMA the 1997 Spotskey model identifies 573,120 acres, with approximately 136,553 acres potentially offering some level of breeding capability (Appendix C, Map 5). Of the potential breeding habitat, there are 88,004 or 64 percent of the potential breeding habitat is within designated wilderness areas. Designated critical habitat and the nearest Protected Activity Center (PAC) is located approximately 10 miles to the south of the TMA within Capital Reef National Park. Additional PACs are located in Desolation Canyon to the north and east of the TMA, and to the south of the TMA along the Green and Colorado Rivers

**Table 3-7 Mexican Spotted Owl Modeled Habitat Acres within the TMA**

MSO	Acres	Percent of TMA
Total TMA Acres	1,313,322	
1997 MSO Modeled habitat within TMA	573,120	44%
Type 2 - breeding	136,553	10%
Type 3 - foraging	436,567	33%
Acres of Wilderness within TMA	473,141	36%
1997 MSO Modeled Acres	269,489	20%
Type 2 - breeding	88,004	7%
Type 3 - foraging	181,247	14%
1997 MSO Modeled Acres within the 0.5 mile impact corridor	326,209	
Type 2 - breeding	53,147	
Type 3 - foraging	272,862	

There is limited information on MSO occupancy within the San Rafael Swell, but the TMA is surrounded by three designated critical habitat units and PACs: one to the northeast, one to the southwest and one to the southeast thus there is potential for dispersal and/or occupancy within the TMA. Additionally, the presence of geological features of the Swell and subsequent modeled habitat (1997 Model, 2000 Model and Lewis 2014) suggests that a substantial portion of the TMA provides potential habitat for MSO. Because of the potential for dispersal and/or occupancy, the PFO BLM contracted surveys within the TMA during 2022 and 2023.

The survey efforts occurred in suitable habitat within the wilderness areas and in areas most likely to be affected by the implementation of the TMP due to the proximity to roads. General habitat constituents were present, but the canyons found within the TMA typically lacked narrow, central gorge habitat that makes those canyons most suitable for MSO (Geomorphis 2022, 2023). All survey areas had substantial cap-rock formations that produce incised canyons with sheer walled caps that are 100-500 feet in depth. When moisture was available, like along the San Rafael River, cottonwoods and tamarisk were present. But much of the TMA is arid with limited vegetation and a low density of lagomorphs was noticed (Geomorphis 2022, 2023). No MSO were detected during any surveys completed in 2022 or 2023 and one great-horned owl observed in 2022 was the only owl species encountered (Geomorphis 2022, 2023).

As shown in Table 3-8, with the implementation of the Proposed Action there would be increase miles of routes designated as open to OHV use within the potential habitat under the proposed action from 573 to 836. Currently, all the evaluated routes exist on the ground and receive some use by the public. Using a 0.5 mile buffer on routes designated as open for OHV use, the BLM calculated the impact zone for the current environment at 264,690 acres and for the proposed action at 323,200 acres , see Table 3-8 below

**Table 3-8** Miles of routes within Mexican Spotted Owl potential habitat, and acres of potential habitat affected by routes (percentages are out of total miles within potential habitat and the 0.5 buffer. and acres of potential habitat within the TMA)

Potential habitat within TMA = 573,120 ac	Current Environment (Alt A)				Proposed Action (Alt D)			
Designation	Miles	Percent of miles	Acres Affected	Percent of habitat	Miles	Percent of miles	Acres Affected	Percent of habitat
OHV Open/Limited	541	65%	264,690	81%	836	97%	323,200	99%
OHV Closed	289	35%	61,318	19%	26	3%	2,867	1%

Use of the designated routes in alternative D will result in the continuation of a variety of indirect and direct effects that are expected to increase over time due to increase in recreation and visitation and not as a result of the proposed TMP designation. Increased visitor use could result in increased motorized vehicle use as well as biking, hiking, and camping activities, which could disturb individual roosting birds. The proposed TMP designation is not expected to change current visitation growth rates; therefore, the effects of the TMP designation analysis presented in the 2008 Biological Opinion (USFWS 2008a and b) are still applicable. As discussed in the 2008 Biological

Opinions, the use of OHVs can cause noise disturbance, which could have direct, negative effects on sensitive species, especially birds, in the TMP. Noise produced by the OHVs and their riders may disturb MSO at important nesting and roosting sites during critical periods (USFWS 2012). Increasing the mileage of routes designated as open to OHV use may increase the direct and indirect effects to the birds and to the habitat. Other indirect effects include habitat fragmentation from route networks loss of hydrologic function in riparian areas from travel route compaction, and the introduction of noxious weeds and invasive species (from OHV and use-related soil disturbance). All of these indirect effects can displace native vegetation utilized for foraging, security and thermal cover, nesting, etc. For more details on species-specific travel-related effects, see the Price and Richfield PRMP/EIS and the 2008 Biological Opinions.

Designated Critical Habitat for the Mexican Spotted Owl occurs approximately 10 miles from the southwestern part of the TMA's outer boundaries (DOI 2023e), inside Capital Reef National Park. Using the 1997 Willey model, the potential habitat near the Designated Critical Habitat and within the boundary of the TMA consists of a few isolated canyons surrounded by potential foraging habitat. The nearest open route within the TMA is located approximately seven miles outside of critical habitat. The closest major highway to the Designated Critical Habitat is Highway 24. Even using the highest traffic levels in the analysis area (Utah State Highway 24: available <<https://www.udot.utah.gov/>>), noise levels are expected to fully attenuate prior to reaching the edge of the critical habitat unit (<https://rigolett.home.xs4all.nl/ENGELS/vlgcalc.htm> )

Based upon the effects described in 3.4.1 and 3.4.3.1 under the Proposed Action the increase of routes designated open to OHVs from 573 miles to 836 miles within potential habitat, the proposed project *May Affect*, and is *Likely to Adversely Affect* the Mexican Spotted Owl. The proposed TMP would increase miles of routes designated as open and increase the acres within the impact zone (1/2 mile of a route) from 264,690 acres to 323,200 acres within the potential habitat and there is 573,120.5 acres of potential habitat within the TMA. The increase in routes designated as open to OHV could affect the birds at nesting and roosting sites through disturbance from OHVs and habitat fragmentation from route networks, loss of hydrologic function in riparian areas from travel route compaction, and the introduction of noxious weeds and invasive species (from OHV and use-related soil disturbance). Current surveys did not detect MSOs within the TMA and noted that much the potential habitat was arid and lacked the narrow gorge habitat that the birds prefer. If there are birds within the TMA, it is likely the effect of the increase in routes designated as open would be mitigated because the routes currently exist and receive use. There would be no new construction, just continuation of the use. In addition, 269,488.9 acres of the potential habitat within the TMA is within wilderness areas. The protection through the wilderness areas is new since 2019. The habitat within the wilderness areas will be protected from motorized intrusions.

Given the distance between Designated Critical Habitat and no new surface disturbance, the proposed project would have *No Effect* on Designated Critical Habitat for the Mexican Spotted Owl.

#### 3.4.3.2 Southwestern Willow Flycatcher (*Empidonax traillii extimus*) - Endangered

The southwestern willow flycatcher (*Empidonax traillii extimus*) is a small passerine bird associated with riparian habitats, and one of four currently recognized subspecies of *Empidonax traillii* (USFWS 1995, 2002b). The Southwestern Willow Flycatcher was listed as endangered on March 29, 1995 (60 FR 10695 10715), under the ESA of 1973. Critical habitat was designated and updated in 2013. No Critical Habitat has been designated on lands administered by the Price BLM. The closest critical habitat is within the Grand Staircase National Monument, approximately 100 miles southwest of the TMA.

The willow flycatcher is a riparian obligate species and nests in dense riparian habitat. Although often considered to use only cottonwood-willow associations, it is known to nest in various exotic species in the southwest, such as tamarisk (*Tamarix* spp.) and Russian olive (*Elaeagnus angustifolia*). Breeding territories have been found primarily where surface water or saturated soil is present, and nests are usually less than 20 meters from water (Johnson 2005). Because the suitable riparian habitats tend to be uncommon and isolated, one major threat to the species includes habitat loss and modification. For more information on the status and trend of the species refer to the 5-year review and the 2002 recovery plan (USFWS 2014a, USFWS 2002b)

Using the current USFWS defined range, the TMA has 12,418 acres of potential habitat on the northern edge of Goblin Valley State Park and 9,756 acres are located within designated Wilderness boundaries in the TMA (Appendix C, Map 6). In Utah and Colorado, the northern boundary of *E. t. extimus* is adjacent to the southern boundary of *E. t. adastus*. Based on available evidence, the Southwestern Willow Flycatcher Recovery Team approximated the boundary as running along the southern portion of Utah and Colorado, although it is acknowledged that more work is needed on exactly where to place the boundary (USFWS, 2002). The Moab BLM office concluded that the potential for nesting southwestern willow flycatcher in the Moab Field Office was minimal due to both survey data gathered from the field and analytical assumptions made in the USGS Survey Open-File Report 2008(Paxton et al, 2008), thus with the Price Field Office located farther north, it is unlikely to support southwestern willow flycatcher. No surveys have been completed within the TMA or the Price Office, however, when willow flycatchers have been sited, it has been assumed they are *E. t. adastus*. Due to the cooler temperatures and the arid environment common in the TMA, it is unlikely for the southwestern willow flycatchers to occur within the TMA.

There is no change in miles open to OHV use between the current conditions (Alt A) and the proposed TMP (Alt D) (Table 3-9). Under both alternatives 8.6 miles of routes are open for OHV use within the USFW identified range. Use of TMP routes may continue to result in habitat impacts on 21 percent of potential habitat within the TMA. Habitat impacts may include fragmentation, increased erosion and sedimentation, and reduced capacity of soils to hold water, which could result in undesirable habitat alteration (Bellows 2003; Craul 1994). The potential for direct mortality from collisions with OHVs or other direct impacts would continue to be rare.

**Table 3-9** Miles of routes within Southwestern Willow Flycatcher potential habitat and acres of potential habitat affected by evaluated routes (percentages are out of miles within habitat and acres of potential habitat within the TMA)

potential habitat =12,418ac	Current Environment (Alt A)				Proposed Action (Alt. D)			
Designation	Miles	Percent of miles	Acres Affected	Percent of habitat	Miles	Percent of miles	Acres Affected	Percent of habitat
OHV Open/Limited	8.6	98%	2,590	21%	8.6	98%	2,590	21%
OHV Closed	0.2	2%	50	< 1	0.2	2%	50	<1

Based upon the effects described in 3.4.1 and 3.4.3.2.2 and no change in the amount of miles designated as open to OHV use, the Proposed Action *May Affect*, Not *Likely to Adversely Affect* the southwestern willow flycatcher. Based on knowledge of the species requirements, it is unlikely to occur within the TMA, and there have been no sightings within the TMA. Approximately 78 percent of the potential habitat or 9,750 acres is within wilderness and will receive protection from motorized use.

Given the distance of over 100 miles between Designated Critical Habitat and the analysis area, the proposed project would have *No Effect* on Designated Critical Habitat for the Southwestern Willow Flycatcher.

*3.4.3.3. Yellow-billed Cuckoo (western Distinct Population Segment) (Coccyzus americanus) – Threatened:*

The yellow-billed cuckoo is a riparian obligate species with a genetically distinct population found in the western United States. The species nests in low to moderate elevation deciduous riparian woodlands containing dense understory with a thick canopy component (USFWS 2021a), (NPS 2014). Critical habitat was designated in 2021 outside of the TMA, on a section of the Green River, north of the town of Green River. Designated Critical Habitat for the yellow-billed cuckoo occurs approximately 11 miles to the east from the eastern most part of the TMA's outer boundaries (USFWS 2021a). The nearest route within the TMA is located approximately 13 miles outside of critical habitat. Though their current distribution in Utah is poorly understood, they are currently accepted as a rare breeder in lowland riparian habitats statewide. Much of the riparian habitat suitable for the yellow-billed cuckoo has been converted to farmland and housing, leading to population declines. A recovery plan has not been written at this time.

Within the TMA there are 1,153 acres of potential habitat for the Yellow-billed Cuckoo that were evaluated through desktop review (Table 3-10). Potential habitat within the TMA was identified by first mapping the perennial rivers and streams that run through the TMA. More specific delineation of habitat was then done using satellite imagery to identify sections of each waterway with the necessary vegetation and patch size requirements. Finally, a quarter mile buffer was created around each section where the river crossed through BLM administered land (Appendix C, map 7). Most sections of potential habitat are delineated into polygons that are at least 12 acres

in size and contain a section that is a minimum of 100 feet by 100 feet in dimension (USFWS 2015a). Approximately 414 acres (35%) are within the boundaries of designated Wilderness areas.

**Table 3-10** Acres of Yellow Billed Cuckoo habitat within the TMA

Acres of potential habitat	Acres of habitat within the Wilderness areas	Acres within the impact zone (.25 mile of routes)
1,153	414	580

Although there have been sightings of the yellow-billed cuckoo within the Price Field Office, there have not been sightings within the TMA. Evaluation of the some of the potential habitat along the Price and the San Rafael River within the TMA was conducted by BLM biologists during 2022 and 2023. The on-the-ground evaluations of potential habitat found areas to be of marginal value or unsuitable for use by Yellow-billed Cuckoo due the small size and lack of canopy structure.

Designated critical habitat unit 71, along the Green River, is partially within the Price Field Office and assumed to be occupied and supporting breeding adults. The designated critical habitat is 11 miles to the east of the TMA. Between the critical habitat and the TMA there are no continuous or connecting riparian corridors. Riparian corridors occur on the San Rafael and Price rivers within the TMA, but potential habitat is limited due to the size parameters and lack of multistory vegetation. Due to the limited potential habitat, there is a limited amount of routes designated as open for OHV use within potential habitat. Table 3-11 shows that currently there are 0.3 miles of routes open for OHV use within Yellow-billed Cuckoo potential habitat and the proposed action would increase the miles designated open to OHV use to 1.3 miles. Routes within habitat could disturb nesting or roosting birds through noise or activity and routes can lead to habitat fragmentation.

**Table 3-11** Miles of routes within Yellow-billed Cuckoo potential habitat and acres of potential habitat affected by routes (percentages are out of miles within habitat and acres of potential habitat within the TMA)

Potential habitat = 1,153	Current Environment (Alt A)				Proposed Action (Alt D)			
Designation	Miles	Percent of miles	Acres Affected	Percent of habitat	Miles	Percent of miles	Acres Affected	Percent of habitat
OHV Open/Limited	0.3	23%	391	34%	1.3	100%	580	50%
OHV Closed	1	76%	189	16%	0	0	0	0

Based upon the effects described in 3.4.1 and 3.4.3.3, the Proposed Action *May Affect*, but is *Not Likely to Adversely Affect* the western population of Yellow-billed Cuckoo. Within the TMA only 1,153 acres are identified as potential habitat, and much of that habitat is isolated and of marginal value due the small size and lack of canopy structure. The 1.3 miles of route within the potential

habitat currently exists and receives use. The designation as open to OHV use is not expected to appreciably change the level of OHV use within the potential habitat.

Given the distance of 11 miles from the boundary and 13 miles from the nearest route between the TMA and the nearest Designated Critical Habitat (unit 71), and the lack of connecting riparian corridors, the proposed project would have *No Effect* on Designated Critical Habitat for the Yellow-billed Cuckoo.

#### 3.4.3.4. *Monarch Butterfly (Danaus plexippus) – ESA Candidate:*

The monarch butterfly is a large, charismatic invertebrate species widely known for the large migrations they undertake across the United States. There are two distinct populations of monarchs in the United States that are split geographically by the Rocky Mountains. The western population of monarch butterflies hibernate along the California coast and migrates west in the spring, where they reproduce and then return to overwintering sites in the fall (USFWS 2020).

Threats to monarch survival include loss and degradation of habitat (loss and mismanagement of overwintering sites, and declines in milkweed abundance), exposure to insecticides, mortality from vehicle collisions, and the effects of climate change. In December of 2014, the USFWS found that listing the monarch may be warranted (USFWS 2014b).

Sightings of monarch butterflies and milkweed have occurred in and around the TMA, though information on the abundance of both within the TMA is sparse. There are 8 species of milkweed that have the potential to occur in the TMA (UPP 2021), though only 4 are considered ‘desirable’ for monarch reproduction (USDA 2014a, b, c, d, e, 2011, 2006). The habitat requirements for each of the 8 milkweed species that may occur within the TMA vary widely, from persistently moist soils, to consistently dry. Besides the presence of milkweed for reproduction, the habitat needs of the monarch butterfly are somewhat ambiguous. Adult monarchs need a consistent supply of nectar from flowering plants along their migration route, and in the western U.S. tend to be associated with rivers and other riparian habitat (Xerces 2015). This is likely especially true in the TMA as vegetation can be sparse in the drier areas.

Due of the ambiguity of monarch habitat features, a focus was placed on areas in the TMA with persistent moisture in the analysis of impact to monarch habitat. Wetland and riparian areas within the TMA were given a 100-meter buffer, which is consistent with Price Resource Management Plan water and riparian management (WAT) decision, WAT-8 (Price RMP, 2008), in the delineation of potential high-value monarch habitat (Appendix C, map 8). A total of 25,521 acres of potential habitat was identified with 13,318 acres within the designated wilderness areas.

Monarchs have the potential to occur within the entirety of the TMA during migration but are most likely to be found in and around riparian habitats, which covers only 1.9 percent of the total acres of the total TMA. As shown in Table 3-12, the Proposed Action increases the miles of routes open to OHV use from 34 to 61.5 and may affect approximately 16 percent of the potential habitat. However, these routes current exist and are receiving use, habitat is sparse and discontinuous, and no new routes will be created. Because of this, in addition to the effects described in 3.4.1 and

3.4.3.4, the Proposed Action will have a *No Jeopardy* impact on the monarch butterfly population. No critical habitat has been designated or proposed for the species within the United States.

**Table 3-12** Miles of routes within monarch butterfly potential habitat, and acres of potential habitat affected by evaluated routes (percentages are out of miles within habitat and acres of potential habitat within the TMA)

Potential habitat = 25,521 ac	Current Environment (Alt A)				Proposed Action (Alt D)			
Designation	Miles	Percent of miles	Acres Affected	Percent of habitat	Miles	Percent of miles	Acres Affected	Percent of habitat
OHV Open/Limited	34	55%	2,403	9%	61.5	99%%	4,057	16%
OHV Closed	28	45%	1,673	7%	0.5	<1%	19	>1%

### 3.5. Plants

#### 3.5.1. Effects Common to All Plant Species

The TMA's ESA-listed plant species evolved within a specific set of habitat characteristics that can be threatened by OHV use and other related anthropogenic activities. These threats can be direct impacts to ESA-listed plant individuals, such as crushing of plants and illegal collection, as well as indirect changes to physiological processes via fugitive dust deposition, including reduced stomatal conductance, increased transpiration rates, increased leaf temperature, decreased photosynthetic rates, and decreased reproductive rates (Farmer 1991). Also possible are alterations in the suitability of habitat, including soil compaction and erosion, increased spread of noxious weeds, hydrologic changes from head cuts, and destruction of biocrusts. Soil compaction by OHVs can have multiple effects on plant growth. Compaction can affect plant growth by reducing moisture availability and permeability which in turn can reduce plant growth rates and size (Adams et al. 1982a and b, Webb 1982, Cole 1990). The compaction of soil can also make it more difficult for roots of plants, particularly those with a taproots, to penetrate into deeper layers of soil (Adams et al. 1982). Destruction of cryptobiotic soil crusts can also reduce water infiltration and soil moisture (Belnap and Gardner 1993) and due to their fragile nature are highly susceptible to destruction by both vehicle and foot traffic.

The compaction of soil can cause an increase in non-native and invasive plant species to occur due to higher surface moisture availability allowing invasive annuals and early-successional species to germinate rapidly and dominate the landscape (Adams 1982, Prose et al. 1987, Lovich and Bainbridge, 1999). Vegetation cover can also be reduced leaving bare ground for these plants to take root (Adams et al. 1982, Prose et al. 1987, Bolling and Walker, 2000).

All together, these impacts can create increased competition for water, space, and nutrients, resulting in decreased reproductive success for ESA-listed plants. In this way, the relatively small and disparate effects of individual OHV incursions outlined above can take on an additive property and result in large-scale habitat alteration.

Routes designated as open to OHV use may contribute to threats like those described above and be detrimental to ESA-listed plants and their habitats. However, currently all the evaluated routes exist on the ground and receive use by the public. This TMP effort would designate the existing routes as open to OHV use; the proposed TMP designations would occur entirely within the existing route footprint so minimal ground disturbance would occur as a result of the TMP. TMP route use will result in the continuation of a variety of indirect and direct effects that are expected to increase over time due to increase in recreation and visitation and not as a result of the proposed TMP designation.

Damage to plants can be reasonably expected to occur in areas where species populations occur within 300 ft of the designated route. Sources of damage may include dust from vehicles travelling on designated routes, unauthorized off route travel, and dispersed camping, which occurs throughout the TMA. Due to the recreational visitation to the San Rafael Swell regardless of the travel management decisions, it is anticipated that those effects are likely to continue. However, it is assumed that routes designated as “OHV Closed” would serve to minimize these effects by restricting access to sensitive habitats and reducing the associated human use of these habitats

Route designations are intended to reduce the number of off-road impacts by designating where OHV’s and other vehicles are authorized to travel. The “OHV Closed” designation works to direct OHV use away from sensitive environments while staying faithful to the BLM’s multi-use mission and serving to mitigate negative effects. This project’s TMP implementation activities provide opportunities to negative impacts to ESA-listed plants and their habitats. Such activities include installing new signs, installing fencing or barriers, or mulching over closed routes. Where applicable, the BLM Conservation Measures (Appendix E) would be applied.

For more details on travel-related effects, see the *Price PRMP/EIS* (BLM 2008b), the *Price Biological Opinion* (USFWS 2008a), the *Richfield PRMP/EIS* (BLM 2008d), the *Richfield Biological Opinion* (USFWS 2008b), a biological report developed by Price BLM resource staff (Appendix D. San Rafael Swell Travel Planning Biological Report), and NatureServe Explorer (NSE 2024).

### **3.5.2. Cumulative Effects**

The analysis area for ESA-listed plants in the TMA is each species’ occupied and potential suitable habitat within the TMA. Past, present, or reasonably foreseeable actions, plans, or projects impacting ESA-listed plants in the TMA include the 2008 *Price RMP and Richfield RMP*, other ground-disturbing project activities in suitable habitat such as solar development, mineral materials site development, route construction and maintenance, mining, oil and gas development, dam and reservoir construction, fence and corral construction, etc. The Proposed Action is expected to reduce the direct and indirect effects of travel and travel-related impacts to plant habitat areas because route designations manage travel in a comprehensive route-specific manner.

### 3.5.3. Species Specific Information and Impacts

#### 3.5.3.1. Barneby reed-mustard (*Schoenocrambe barnebyi*) – Endangered

Barneby reed-mustard is a perennial herb in the mustard family (*Brassicaceae*). Plants reproduce from seed and flower from late April to mid or late May. Gravity, wind, and rain are thought to be the primary dispersal agent of seeds (USFWS 2021c). It is endemic to Utah in the United States, where it is known only from Emery and Wayne Counties. Within the TMA, the known population of Barneby reed-mustard is found in and adjacent to the Muddy-Creek wilderness area on the red clay soils derived from the Moenkopi and Chinle formations. Most of the known occupied sites are on cool, steep, north-facing slopes, along mid- or upper-slopes in pinyon pine/juniper communities. Threats to this species at the time of listing were mainly mineral exploration and mining for uranium. For more details on habitat and threats, see Utah Reed-Mustards: Clay Reed-Mustard (*Schoenocrambe arigllaceae*) Barneby Reed-Mustard (*Schoenocrambe barnebyi*) Shrubby Reed-Mustard (*Schoenocrambe suffrutescens*) Recovery Plan (USFWS 1994) and *Schoenocrambe barnebyi* (Barneby Reed-Mustard) 5-Year Status Review (USFWS 2011, 2021c).

Within the TMA, there are approximately 801,100 acres of potential habitat, according to the USFWS current range GIS layer (ECOS 2022a) (Appendix C. Maps 9). Using a 300 ft buffer for the OHV-Open routes, the current environment (Alt A) has 58,258 acres of potential habitat within the impact zone with 876.3 miles of open routes within the potential habitat (table 3-13). The proposed action (alt D) would increase the miles of open routes to 1,224 miles and increases the affected acres to 79,217 within the impact zone.

**Table 3-13** Miles of routes within Barneby reed-mustard potential habitat, and acres of potential habitat affected by evaluated routes (percentages are out of miles within habitat and acres of potential habitat within the TMA)

Potential habitat = 801,100 ac	Current Environment (Alt A)				Proposed Action (Alt D)			
Designation	Miles	Percent	Acres Affected	Percent	Miles	Percent	Acres Affected	Percent
OHV Open/Limited	875.3	70%	58,258	73%	1,224.2	98%	79,217	99%
OHV Closed	376.6	30%	21,764	27%	28.3	2%	1,065	1%

There are four identified populations of Barneby reed-mustard, and one, the Sy's Butte/Hidden Splendor population is within the TMA. The occupied habitat within the Sy's Butte/Hidden Splendor population is 76.5 acres, and 50 percent or 39 acres are within the designated Wilderness. As shown in Table 3-13, approximately 0.1 miles of route is within 300 feet of this habitat. The route is very steep, and rarely maintained, and leads to the boundary of the designated Wilderness.

**Table 3-13** Miles of routes within Barneby reed-mustard occupied habitat, and acres of occupied habitat affected by evaluated routes (percentages are out of miles within occupied habitat and acres of occupied habitat within the TMA)

Within the Sy's Butte/Hidden Splendor population there are two known sites for this plant on BLM lands, and one site on state lands. Site visits performed by PFO staff have documented the health of the plants and monitored the known population sites during 2012-2015. Site visits without monitoring continue annually and no additional disturbance from mining activities, grazing or recreation use have been observed. The habitat is extremely rocky and steep and no livestock use has been observed. During the San Rafael Swell uranium mine closure project with the State of Utah Abandon Mine Lands Program, the old road cuts were used and no disturbance to the plants were noted. The fluctuations in numbers of individuals appears to be in response to available moisture and growing conditions, as disturbance from mining, recreation and grazing have not been observed.

In 2019, wilderness areas were designated in much of the potential habitat, and 38 percent or 304,043 acres of the potential habitat is now within designated Wilderness. In the future, land exchanges may transfer the state land containing occupied habitat to the BLM. Due to the wilderness designation overlapping 50 percent of the occupied habitat, the threat of mineral exploration and development in the Sy's Butte/Hidden Splendor population remains low. There are only two preexisting mining claims with prior existing rights to explore and develop mineral deposits within the wilderness area that overlap or are near to the occupied habitat in the Sy's Butte/Hidden Splendor population. New mining claims are prohibited within the Wilderness areas.

Based upon the effects described in 3.5.1 and 3.5.3.1, the increase of 20,959 acres of impact and 349 miles within potential habitat and the limited number of routes near occupied habitat, the lack of recreation in occupied habitat, and the plants propensity to be on steep cliffs away from route impacts, the Proposed Action *May Affect*, and is *Likely to Adversely Affect* Barneby reed-mustard. Due to the steep cliffs and rocky terrain of the occupied and potential habitat, the potential for routes is limited. And with 38 percent of the potential habitat within the wilderness areas, disturbance from motorized routes in potential habitat is also limited. There is no Designated Critical Habitat for this species.

#### 3.5.3.2. *Jones cycladenia* (*Cycladenia humilis* var. *jonesii*) – Threatened

*Jones cycladenia* is a long-lived, clonal reproducing perennial species found within the Colorado Plateau ecoregion. This species grows at elevations between 4,000' and 6,000' on steep, gypsiferous, saline soils of the Chinle and Summerville geologic formations. The species was listed in 1973 (16 U.S.C. 1531 et seq.). Then, USFW's 2021 Biological Report for *Jones Cycladenia* identified several recovery units and populations to facilitate management of the species. Within the TMA, there is one recovery unit, the San Rafael Recovery Unit that contains both the Shadscale Mesa and Hatt Ranch populations (Appendix C, map 10). The San Rafael Swell Recovery Unit is the largest unit and supports 41 percent of the known *Jones cycladenia* (USFWS 2021b). The Shadscale Mesa population has been the largest known populations with 28 percent of the known individuals. The majority of plants within the San Rafael Swell Recovery units are on gradual slopes that are more easily accessible to stressors and threats than those in

other recovery units (Sansom and Elliott. 2012). Ongoing impacts to habitat include; off-highway vehicle use, oil, gas, and mineral exploration, including uranium mining and tar sands. Habitat disturbance was thought to reduce seedling establishment and the species has also suffered from inadequate State and Federal regulatory mechanisms. For details on habitat, threats, and trends see the *Draft Biological Report for Jones Cycladenia* (USFWS 2021b) and the *Recovery Outline for the Jones Cycladenia* (USFWS 2008c).

A habitat model was developed by J.G. Management Systems, Inc. in 2011 to predict the potential for new occurrence to be identified in a particular area or complex for Jones cycladenia. This model used elevation and geological formations as parameters of known sites on BLM lands (Sansom and Elliott. 2012) and then buffered the identified geological formation by 1.5 kilometers (this was the greatest distance of a plant from an identified formation). Large survey efforts within the Price Field Office occurred in the high and moderate potential habitats from 2011 to 2014. No new populations or occurrences were found outside the recovery unit. In 2022 USFWS published an updated species range (ECOS 2022b). Within the San Rafael Swell Travel Management Area there are 568,456.37-acres of CYJO range or potential habitat. Of these 568,456.37-acres, 257,044.25-acres (or 45%) are within a Wilderness Area (Appendix C, map 10). The potential range covers a large portion of the TMA. Under current conditions, there are 585.56-miles of routes open for OHV use and 328.23-miles of closed routes within the USFWS potential habitat in the TMA. The Proposed Action includes, 891.41-miles of routes open for OHV use and 22.45-miles of closed routes within the USFWS potential habitat in the TMA.

Because extensive search efforts have not located occurrences outside the recovery unit, the analysis of effects focuses on the recovery unit and occupied habitat. The San Rafael Recovery Unit is 8,263.59-acres, and within the Recovery Unit, there are 515.62-acres of occupied habitat. Appendix C, map 10). As shown in Table 3-14, within the recovery unit there are approximately eight miles of routes currently designated as open in the Recovery Unit within potential habitat. The proposed action would increase the route miles designated as open to 13.

**Table 314** Miles of routes within Jones cycladenia potential habitat within the recovery unit, and acres of potential habitat affected by evaluated routes within the recovery unit. (Percentages are based on miles of routes within the recovery unit and acres within the recovery unit)

recovery unit = 8,263.59- ac	Current Environment (Alt A)				Proposed Action (Alt D)			
Designation	Miles	Percent of miles	Acres Affected	Percent of miles	Miles	Percent of miles	Acres Affected	Percent of habitat
OHV Open/Limited	8	58%	570	6%	13	96%	895.5	11%
OHV Closed	5.5	41%	356	4%	0.4	3%	30	<1%

Unauthorized recreational use is a concern for the two populations (Shadscale Mesa, Hatt Ranch) within the TMA, and the San Rafael Recovery Unit because the habitat is accessible to motorized and non-motorized users and it is located in a popular recreation area. Field observation by BLM

field staff documented disturbance within occupied and potential habitat by recreation use within both populations. Due to the potential for resource damage, BLM implemented a monitoring program for the two populations in 2017. The monitoring program established 6 plots, 5 within the Shadscale population and 1 within the Hatt Ranch population. The number of ramets appear to fluctuate predominantly due to the amount of moisture or climate influences more than disturbance (Table 3-15). Monitoring locations showed no evidence of recreation or cattle grazing disturbance within plot boundaries. Burro or horse droppings were found in <1% of plots, but CYJO showed no evidence of grazing pressure. However, because of the disturbance documented within occupied habitat near Shadscale Mesa, the BLM installed an enclosure fence in 2023 (DOI-BLM-UT-G020-2022-0025-CX). This fence limits the potential for OHV related disturbance on 14 acres and provides an opportunity to monitor the species. As shown in map 10, there are approximately three miles of a County Class B route which are within 300 feet of the occupied habitat. This route is open in all alternatives and is projected to have direct effects on approximately 70 acres of occupied habitat.

**Table 3-15** Number of Live Ramets Observed During Yearly Monitoring

Precip (in) as of May 1st	Number of Live Ramets Observed							
	Year	Plot 1	Plot 2	Plot 3	Plot 4	Plot 5	Plot 6	Total
3.68	2017	500	650	2000	450	500	500	4600
1	2018	0	0	50	50	20	36	156
6.31	2019	840	1250	5520	895	1655	930	11090
3.3	2020	820	1640	5700	1272	2711	1447	13550
2.47	2021	488	1	262	26	1	9	787
6.50	2023	950	1860	6200	1380	3000	1216	14606
2.7	2024	777	1038	2220	1102	2131	574	7,842

TMP route use will result in the continuation of a variety of indirect and direct effects that are expected to increase over time due to increase in recreation and visitation and not as a result of the proposed TMP designation. The Price PRMP/EIS and the 2008 Biological Opinion considered impacts from the current designated routes in the TMA. The county B-road was open in 2008 and is proposed to be open in this TMP. Because it goes through occupied and potential habitat, direct and indirect effects are expected to continue. The use of OHVs could create indirect effects such as dust and the introduction of weed species to the area caused by OHV travel. Dust can inhibit plant respiration and photosynthesis (Taiz and Zeiger 2006) and can lead to plant death. The introduction of weeds can occur either by the inadvertent transport of seeds (e.g., on OHV tires) or by disturbance caused by OHV travel itself; the latter creates favorable conditions for weed species colonization (Monsen 2004). These weeds can crowd in and out-compete native species for available nutrients, causing a decline in native species populations. Additionally, direct, adverse effects to Jones' cycladenia individuals and habitat could occur if there was unauthorized, off-trail/road use of OHVs. Direct, adverse effects could include trampling of individual plants and habitat degradation and fragmentation.

Based upon the effects described in 3.5.1 and 3.5.3.2, the increase in miles of routes designated as open for OHV use within the recovery unit from approximately 8 to 13 miles, the continuation of the three miles of route open to OHV use within occupied habitat and the potential to directly affect 70 acres of occupied habitat and the accessibility of the occupied habitat the Proposed Action *May Affect*, and is *Likely to Adversely Affect* Jones cycladenia. Some of the impacts could be mitigated through the protection of the wilderness. Of the 568,456.37-acres of potential habitat, 257,044.25-acres (or 45%) are within a Wilderness Area which could provide protection to unknown populations or occurrences from motorized uses. In addition, minor ground disturbance would occur as a result of the TMP because the routes currently exist and receive motorized use. There is no designated or proposed critical habitat for Jones cycladenia.

### 3.5.3.3. Last Chance Townsendia (*Townsendia aprica*) – Threatened

Last Chance townsendia is a small, stemless, mound-forming perennial plant in the sunflower family. Last Chance townsendia is distinguished from other members of the genus by its apricot flowers and the shortened pappus of the ray flowers (Cronquist et al. 1994; Welsh et al. 2008). Last Chance townsendia is a narrow endemic to south-central Utah in Emery, Sevier, and Wayne counties and was listed in 1985. It was listed due to threats from mineral development, road building, OHV use, and livestock grazing. In the 2013 Five-year review other threats included climate change, oil and gas development and others (USFWS 2019). For more details on habitat and threats, see the Last Chance Recovery Plan and the 5-year status review (USFWS 1993, 2013, 2019).

Survey efforts to revisit known sites within the Price Field Office and the TMA were made between 1993 and 2012, and overall showed high variability in the number of plants between years (RMER 2012). Surveys were conducted by a contractor, Rocky Mountain Environmental Research, and an Interagency Rare Plant Team through an agreement with the BLM, National Parks Service, USFWS, and the U.S. Forest Service. One long-term monitoring plot for this species is located near the type locality along SR-72 and is within the TMA. It demonstrates population swings; the population in this plot in 1996 was 232 individuals followed by decline to 12 individuals in 2010, then 206 individuals in 2017. The plot was not monitored between 2010 and 2017, thus the causes for the change in numbers is not clear, but are likely related to competition, drought, and timing of favorable precipitation.

There are 1,846,833.32-acres of total USFWS potential habitat for Last Chance townsendia (ECOS 2022c). Of these acres, approximately 769,609.47-acres (or 42%) are within the TMA. Currently there are 53,093 acres of potential habitat within 300 feet of an OHV-open route. The proposed action would increase it to 74,446 acres within 300 feet of an OHV-open route. Occupied habitat was created by adding a 1km buffer to all the known occurrences (Appendix C, Map 11). Within the TMA there are approximately 39,126 acres of known occupied habitat. Roughly 3,000 acres, or 8 percent, occurs within designated Wilderness boundaries. The protections in place for designated Wilderness areas are expected to also serve as protection for Last Chance townsendia, reducing the negative impacts expected for individual plants and suitable habitat.

As shown in Table 3-16, approximately 88 miles of routes designated open to OHV use are within occupied habitat (Appendix C. Map 11). The proposed action will increase the miles to 101 miles designated open to OHV use.

**Table 3-16** Miles of routes within Last Chance townsendia occupied habitat, and acres of occupied habitat affected by evaluated routes (percentages are out of miles of route within occupied habitat and acres of occupied habitat within the TMA)

Occupied = 39,126 ac	Current Environment (Alt A)				Proposed Action (Alt D)			
Designation	Miles	Percent of miles	Acres Affected	Percent of habitat	Miles	Percent of miles	Acres Affected	Percent of habitat
OHV Open/Limited	88	81%	5,671	14%	101	93%	6,442	16%
OHV Closed	21	19%	1,209	3%	8	7%	440	1%

Based upon the effects described in 3.5.1 and 3.5.3.3, the Proposed Action *May Affect*, and is *Likely to Adversely Affect* Last Chance townsendia. The TMA contains 42 percent of the potential habitat and roads occur throughout. Under the current conditions there are 53,093 acres of potential habitat within the impact zone, 300 feet of a route open for OHV use. The proposed action would increase the acres of potential habitat in the impact zone to 74,446 acres or approximately 10 percent of the potential habitat within the TMA. Occupied habitat occurs within the TMA, and under the proposed action, 16 percent of the occupied habitat is within the impact zone. Because of remote areas and difficult terrain common at the known sites, it is expected that travel speeds would be slow, thus reducing the dust plumes, potentially reducing the impact of traveling on the routes. There is no Designated Critical Habitat for the species.

*3.5.3.4. San Rafael cactus (Pediocactus despainii) & Winkler cactus (Pediocactus winkleri) – Endangered & Threatened*

The San Rafael cactus is a member of the cactus (*Cactaceae*) family. It is endemic to the Colorado Plateau and occurs in several populations in central and south-central Emery County. Currently, there are 29 known populations with approximately 21,555 plants documented (USFWS 2023c). It should be noted that this figure does not represent a total population estimate, as that effort has not been undertaken to date. San Rafael cactus grows in a wide variety of soils, although it may favor fine textured mildly alkaline soils rich in calcium and derived from limestone substrates of the Carmel Formation and the Sinbad member of the Moenkopi formation. It has also been found on shale barrens of the Brushy Basin member of the Morrison, Carmel, Mancos, and Dakota geologic formations and in areas of primarily alluvial and colluvium soils. The species most commonly occurs on benches, hill tops, and gentle slopes, and most abundantly on sites with a south exposure at elevations of 1450-2080 m (4760-6820 ft). The potential and the occupied habitat is shown in Map 12a. The potential habitat is mapped using the information from ECOS and the occupied habitat was derived from BLM inventory records. Occupied habitat was created by adding a 1km buffer to all known existing San Rafael cactus point locations through 2023 in accordance with NatureServe and Habitat-based Plan Element Occurrence Delimitation

Guidance. The winkler cactus is a member of the cactus (*Cactaceae*) family. Differentiating winkler cactus from San Rafael cactus is not easy, but it is currently and generally accepted that plants in Emery County are assigned to San Rafael cactus, while those in central Wayne and extreme southeastern Sevier Counties are attributable to winkler cactus. It is endemic to specific, fine textured soils derived from the Dakota formation and Morrison formation in the lower Fremont River in Wayne County and southeast Sevier Counties of south-central Utah. It is generally found at elevations between 1,500 - 2,130 meters (m) (4,900 - 7,000 feet (ft)) on rocky, alkaline hill tops and benches, and gentle slopes on barren, open sites in salt desert shrub communities. The potential habitat from ECOS is shown in Map 12b.

San Rafael cactus and winkler cactus are closely related and appear to have a blending of morphological characteristics where their ranges overlap. The ranges overlap near the southern boundary of the TMA, with winkler cactus range trending farther south and San Rafael cactus range trending farther north across the TMA (Maps 12a, 12b). For the analysis of this TMP all the known individuals and occupied habitat within the TMA were considered as San Rafael cactus. However, due to the limited overlap, the analysis of potential habitat for both species was considered individually.

To increase the understanding of the San Rafael cactus and the potential effects due to travel planning, surveys within the impact zone (300 ft from routes) and outside the impact zone or areas greater than 300 feet from the routes were completed in 2022 and 2023. The BLM focused survey efforts outside the impact zone, often in wilderness areas. A contractor focused survey efforts within the impact zone. To gather knowledge of the species throughout the TMA, both survey efforts were stratified by 6 focus areas created by the BLM around known occupied habitat centers to ensure that survey efforts occurred throughout the TMA. The desired level of survey efforts within each focus areas was based on the amount of habitat within the focus areas. Focus Area 1 is located north of the Cleveland-Lloyd Dinosaur Quarry and east of Desert Seep Wash. Focus Area 2 is located north of the Green River Cutoff Road and east of Cedar Mesa in the vicinity of Long Point Ridge. Focus Area 3 is located in the Wedge area of the San Rafael Swell. Focus Area 4 encompasses varying terrain both north and south of Interstate 70. Focus Area 5 occurs east of Muddy Creek and north of the San Rafael Reef. Focus Area 6 is located off the Baker Ranch Road and Lower Last Chance Loop.

The contractor recorded 6,719 San Rafael cactus individuals within the survey area. To generate occupied San Rafael cactus habitat polygons each San Rafael cactus data point was buffered by 50 meters, then merging the intersecting buffers. Utilizing the methodology described, between the 2022 and 2023 field seasons, the contractor surveyed 4,400 acres of suitable habitat, of which 1,078.30 acres were occupied by San Rafael cactus. Resulting in approximately 24.5% percent of the suitable habitat surveyed as part of this project was found to be occupied by San Rafael cactus.

The BLM generated over 350 random points within potential habitat that was greater than 300 feet from the routes. During 2022 and 2023 158 sites were visited by BLM staff, and 26 sites had San Rafael cactus occupancy. The small survey effort resulted in approximately 16% percent of the randoms sites surveyed found to be occupied, and only 2 had observation of off-route use. If the

site was occupied, demographic data including number of stems, phenology, reproductive efforts, and condition were collected.

Additional monitoring efforts within the TMA include the long-term monitoring program the Goodwater Rim Bike Trail and the monitoring plots established adjacent to the Chalk Hills Quarry. The Goodwater Rim Bike Trail monitoring established 49 plots in 2019 and includes both control and treatment points. The monitoring program is for approximately 29,000 acres of occupied habitat surrounding a highly used mtn bike trail and recreation area. In 2024, 28 plots were monitored and 25 cacti were observed. Since the previous monitoring cycle, 14 cacti could not be relocated. The causes appeared to be from predation, disturbance from cattle and recreationists, environmental effects, and natural death (BLM 2024). Reproductive effort was monitored, and 41 total flowers or fruits were observed, and two sites were found with new recruitment. The Chalk Hills Quarry monitoring will monitor 10 plots for the life of the mine. The plots were established in 2023 and will be completed yearly.

Within the TMA there are 1,144,628 acres of potential habitat within the TMA for the San Rafael cactus (see Table 3-17). Occupied habitat was created by adding a 1km buffer to all known existing San Rafael cactus point locations through 2023 (NatureServe and Habitat-based Plan Element Occurrence Delimitation Guidance). The potential and the occupied habitat are located primarily on the western half of the TMA (Appendix C. maps 12). The population polygons are assumed occupied and are hereafter referred to as occupied habitat. Tables 3-18 and 3-19 show the miles of routes and acres affected within potential and occupied habitat. Under alternative A there are approximately 122 miles of routes within occupied habitat, alternative D has approximately 159 miles within occupied habitat.

**Table 3-17** San Rafael and Winkler Cactus Habitat Acres within the TMA

San Rafael Cactus	Acres	Percent of TMA (1.3 million ac)	Percent of potential habitat within TMA
Entire potential habitat ac	3,468,860		
potential habitat Within TMA	1,144,628	87%	
potential habitat within Wilderness	365,052	27%	32%
Potential habitat within TMA in Impact Corridor	118,689		10%
Winkler Cactus	Acres	Percent of TMA	Percent of potential habitat within the TMA
Entire potential habitat ac	593,437		
potential habitat Within TMA	97,242	7%	
potential habitat within Wilderness	34,517	3%	35%
Potential habitat within Impact Corridor	6,404		6%

**Table 3-18** Miles of routes in San Rafael & Winkler cactus potential habitat, and acres of potential habitat affected by evaluated routes (percentages are out of miles within potential habitat and acres of potential habitat within the TMA)

Potential habitat = 1,144,628	Current Environment (Alt A) San Rafael Cactus				Proposed Action (Alt D) San Rafael Cactus			
Designation	Miles	Percent of miles	Acres Affected	Percent of habitat	Miles	Percent of miles	Acres Affected	Percent of habitat
OHV Open/Limited	1,235	67%	82,757	7%	1,794	98%	116,797	10%
OHV Closed	603	33%	35,932	<1%	44	2%	1,892	<1%
Potential habitat = 593,437	Current Environment (Alt A) Winkler Cactus				Proposed Action (Alt D) Winkler Cactus			
Designation	Miles	Percent of miles	Acres Affected	Percent of habitat	Miles	Percent of miles	Acres Affected	Percent of habitat
OHV Open/Limited	71	77%	5,041	79%	83	90%	5,911	93%
OHV Closed	21	23%	1,364	21%	9	10%	494	7%

**Table 3-19** Miles of routes San Rafael & winkler cactus occupied habitat, and acres of occupied habitat affected by evaluated routes (percentages are out of total acres of occupied habitat within the TMA)

Occupied habitat = , 65,725	Current Environment (Alt A) San Rafael Cactus				Proposed Action (Alt D) San Rafael Cactus			
Designation	Miles	Percent of miles	Acres Affected	Percent of habitat	Miles	Percent of miles	Acres Affected	Percent of habitat
OHV Open/Limited	123	75%	8,224	12.5%	159	98%	10,281	16%
OHV Closed	40.5	25%	2,247	3%	5	2%	208	<1%
Occupied habitat = , 0	Current Environment (Alt A) Winkler Cactus				Proposed Action (Alt D) Winkler Cactus			
Designation	Miles	Percent of miles	Acres Affected	Percent of habitat	Miles	Percent of miles	Acres Affected	Percent of habitat
OHV Open/Limited	0	0	0	0	0	0	0	0
OHV Closed	0	0	0	0	0	0	0	0

Based upon the effects described in 3.5.1 and 3.5.3.4, the increase in miles of routes open to OHV use within occupied and potential habitat, the Proposed Action *May Affect* and is *Likely to Adversely Affect* the San Rafael cactus. The TMA contains over 30% of the entire modeled potential habitat for this species, with 1,144,628 acres within the TMA. Ten percent of the potential habitat is within the impact zone of 300 feet from a route. Recent surveys found that 24% of the areas surveyed were occupied, indicating there is potential to locate new sites and increase the amount of known occupied habitat within the TMA. The surveys outside the impact zone found occupied habitat at 16% of the locations. Many of these new locations are located in Wilderness areas. Within the TMP, 365,052 acres of potential habitat occurs within the wilderness. The wilderness areas may provide some protection from disturbances related to OHV use or mining. Monitoring at Goodwater rim indicates that BLM is limiting the off route use and that some recruitment is occurring. There is no Designated Critical Habitat for the species.

Based upon the effects described in 3.5.1 and 3.5.3.4, the increase in miles of routes open to OHV use within potential habitat, the Proposed Action *May Affect* and is *Likely to Adversely Affect* the winkler cactus. The proposed action will increase the miles of roads open to OHV use from 71 to 83 within potential habitat and affect 6,504 acres. Within the TMP, 34,517 acres of potential habitat occurs within the wilderness. The wilderness areas may provide some protection from disturbances related to OHV use or mining. There is no Designated Critical Habitat for the species.

#### 3.5.3.5. Ute ladies'-tresses (*Spiranthes diluvialis*) – Threatened

Ute ladies'-tresses is a perennial orchid found in wetland ecosystems, including along perennial streams and rivers, in groundwater-fed meadows, and along human created wetland systems

(Fertig et al, 2005). The range of the species includes Colorado, Nevada, Utah, Idaho, Montana, Nebraska, Washington, Wyoming, and British Columbia. The closest known population to the TMA is located approximately 9 miles to the northwest. BLM used the USFW Species Status Assessment Report of the Ute Ladies' Tresses to identify the potential habitat as well as identify the 6-digit HUCs or analytical units (USFWS 2023d). Stressors to the species include limited habitat availability and reduced resiliency. The Species Status Assessment Report for Ute Ladies Tresses (*Spiranthes diluvialis*) (USFWS 2023d) and the draft recovery plan (USFWS 1995b) provide more details on habitat requirements and stressors.

The Swell TMA is within the Lower Green analytical unit. This unit contains a large amount of unsurveyed habitat that has been modeled as potential habitat for Ute ladies'-tresses. The acres of potential habitat were calculated using the refined species habitat model with a 300 foot buffer. The potential habitat was based upon a range-wide distribution model that has substantial inclusions of non-habitat including upland areas and dry ephemeral washes. To provide a more accurate habitat prediction, the BLM used remote sensing data to complete desktop exclusions of areas that clearly do not have the water resources to support the species. This was accomplished using the following steps.

1. Calculated the modified soil-adjusted vegetation index 2 (MSAVI) from average NAIP data (ie the average pixel values from all NAIP collection efforts held by ESRI in their AGOL Service) after downsampling from 1x1 m to 15x15 m pixels due to storage and processing capabilities
2. Produced a regression relating MSAVI to topographic parameters to calculate the expected MSAVI based on the topography alone:  

$$M = 3.389 \times 10^{-4} E - 7.121 \times 10^{-2} S + 5.013 \times 10^{-5} E S - 6.236 \times 10^{-1}$$

Where:  
 $M = \text{MSAVI}$   
 $E = \text{elevation (m)}$   
 $S = 19 \times 19.5 = \text{meter rectangle focal mean of } \cos \theta$   
 $\theta = \text{aspect}$   
 $F = 322.7, df = 2563, p < 2.2 \times 10^{-16}$
3. Calculate the difference between the predicated and actual MSAVI values for each pixel
4. To identify the meaningful variability of near shore to upland habitat, identified and excluded MSAVI values for open water pixels by identifying pixels with values less than 2.5 times the interquartile range below the 1st quartile (i.e., values less than -1.0161).
5. Calculated the standard deviation of the remaining pixels (0.1997).
6. Determined that the number of standard deviations from the mean needed to capture all known populations of Ute ladies'-tresses (2)
7. Two was set as the cutoff.
8. Areas above the cutoff identified areas with elevated vegetation growth relative to the topography. This suggests there is elevated surface or subsurface moisture and should be further evaluated to determine if appropriate habitat parameters are present for the species.

In the current TMA there are 874 acres of potential habitat and 0.4 miles of open routes in potential habitat and 0.3 miles of closed routes. (Appendix c, map 13). Alternative D has 132.5 acres of

potential habitat within 300 feet of routes open for OHV use.. The Proposed Action would increase the miles of routes open to OHV use and increase the acres of potential habitat affected.

**Table 3-20** Miles of routes within Utes Ladies tresses potential habitat and acres of potential habitat affected by evaluated routes (percentages are out of miles within potential habitat and acres of potential habitat within the TMA)

Potential habitat = 874ac	Current Environment (Alt A)				Proposed Action (Alt D)			
Designation	Miles	Percent of miles	Acres Affected	Percent of habitat	Miles	Percent of miles	Acres Affected	Percent of habitat
OHV Open/Limited	0.4	57%	69	8%	0.7	100%	132	15%
OHV Closed	0.3	43%	63	7%	0	0	0	0%

Currently there are known populations outside the TMA located upstream on the Price and the San Rafael Rivers. Because these populations were recently found, BLM completed initial habitat assessments within the potential habitat inside the TMA, but monitoring has not occurred. Habitat assessments were conducted by BLM botanist on the Price and San Rafael rivers in July of 2023 to determine the suitability of the potential habitat from the predictive model (BLM Burnham 2023). Assessments were completed on approximately 300 acres. At the sampling locations, soils were classified as sandy to sandy loam along the banks and many upland areas were comprised of alkali soils. Vegetation was composed of some cottonwood, willow, and carex species; however, the primary understory species were *Tamarix*, Russian olive, greasewood, and upland species such as rabbitbrush, sagebrush, salt grass and alkali sacaton. All assessment sites were determined to be “not suitable” due to lack of appropriate soils and common associated species. The known population along the Price River near Price, Utah occurs in an area that supports riparian habitat and contains some indicators of alkali conditions such as salt grass, and tamarisk area.

The Proposed Action would designate less than 1 additional mile for OHV use in potential habitat for a total of 0.7 miles designated open to OHV use. The Proposed Action would not create new disturbance within occupied or potential habitat. The routes would affect 132.2 acres which is 15% percent of potential habitat within the TMA. The initial habitat assessment efforts indicated not suitable or low suitability on 300 acres and the native soils contain high salts indicating there is low potential for suitable habitat and new populations. Because of no new surface disturbance and the low potential for suitable habitat, minimal impacts to habitat or individuals are expected.. Therefore, the Proposed Action *May Affect, and is Likely to Adversely Affect* the Ute ladies’-tresses. There is no Designated Critical Habitat for the species.

#### 3.5.3.6. *Wright fishhook cactus (Sclerocactus wrightiae)* – Endangered

Wright fishhook cactus is a member of the cactus (*Cactaceae*) family in the genus *Sclerocactus*. It is endemic to south-central Utah, where it is only known to occur in Emery, Sevier, and Wayne counties. Wright fishhook cactus occurs on a variety of geologic formations, including the Morrison, Cedar Mountain, Carmel, Entrada, Curtis, and Summerville formations, and all members of the Mancos Shale Formation, excepting the Masuk Shale member. The species occurs

at elevations between 4,200 and 7,600 feet (1,280 – 2,320 meters) on flat areas, low ridges, gentle slopes, and rarely in sandstone crevices. The species appears to favor certain soil characteristics, including texture, drainage, and chemical properties, and that these conditions are more important than the presence of certain geological formations (Neese 1987; Kass 1989). Flower color varies from white (most common) to pink, with the most diagnostic characteristics being magenta-colored filaments, earlier phenology, classic rose-like fragrance, and generally smaller flowers than the related small-flower fishhook cactus (*Sclerocactus parviflorus*). Around the margin of the range of Wright fishhook cactus, hybridization is known to occur with the widespread small-flower fishhook cactus. In these hybrid zones, individual plants exhibit variation in size, flower and filament color, spine length, fragrance, etc. Often, these hybrid zones occur on habitats that are intermediate between those favored by each of the parent species. The recovery plan noted that threats to the species included surface disturbing activities and livestock grazing at several of the sites. For more details on habitat and threats, see the NRCS plant guide on Wright fishhook cactus (NRCS 2011b) and the *Wright Fishhook Cactus (Sclerocactus wrightiae L. Benson) 5-Year Review: Summary and Evaluation* (USFWS 2022).

There are approximately 456,197 acres of potential habitat within the TMA, according to the USFWS current range GIS layer (ECOS 2018). This accounts for 46 percent of the entire species range. Of the potential habitat 113,898 acres occurs within the designated Wilderness. Occupied habitat was created by adding 1km buffer to all known occurrences for a total of 145,804.5 acres of occupied habitat. Within the TMA, there are 84,569-acres (58%) of occupied habitat. Approximately 6,430 acres of occupied habitat occurs within the wilderness areas. (Appendix C. Map 14). Table 3-21 shows the miles of routes within occupied habitat. In the current environment, there are 75 miles of closed routes and 114.5-miles of routes open for OHV use within occupied habitat. There are 7,523 -acres of occupied habitat within the impact zone, 300 feet from routes designated as open. The proposed action would increase the miles of open routes. With the proposed action, there would be 182 miles of routes open for OHV use affecting 14 percent of the occupied habitat within the TMA.

**Table 3-21** Miles of routes within Wright fishhook cactus occupied habitat and acres of occupied habitat affected by evaluated routes (percentages are out of miles within occupied habitat and acres of occupied habitat within the TMA)

Occupied habitat = 84,569	Current Environment (Alt A)				Proposed Action (Alt D)			
	Designation	Miles	Percent of miles	Acres Affected	Percent of habitat	Miles	Percent of miles	Acres Affected
OHV Open/Limited	114	60%	7,523	9%	182	96%	11,846	14%
OHV Closed	75	40%	4,664	5%	7.	4%	341	<1%

From 2011-2013 the BLM, under formal consultation with USFWS, conducted repeat site inventories of all known Wright fishhook cactus locations with the goal of assessing the threats of anthropogenic uses across the entire range of that species as well as determining baseline for future range-wide monitoring (BLM 2015). In that effort, 8,767 cactus individuals were recorded along

with many attributes of each, such as cactus diameter, reproductive effort, condition, damage, cause of damage, etc. From that dataset, the greatest determinable cause of damage to Wright fishhook cactus for those years was from rodent and lagomorph herbivory (3.2%), followed by causes unknown and livestock trampling (1.3%, each). Individuals damaged by motorized vehicles was six out of 8,767 or .068%, making it the least of the recorded anthropogenic.

Population trend monitoring across the range of Wright fishhook cactus is ongoing and consists of repeat census at 34 separate locations, with seven of these within the TMA (BLM 2021). The combined population trend within the TMA from 2011-2020 fluctuated greatly. In the three years following establishment (2011-2014), populations within the TMA declined by 44 percent as native predatory cactus beetles (*Monilema semipunctata*) swept the region, being the only significant cause of mortality of this period. Kass (1989, 2001) also observed this phenomenon of dramatic beetle mortality in his earlier work with the species. Populations remained stable to slightly increasing for the next several years before a large recruitment event occurred in late 2018 and early 2019, when the population increased to nearly 10 percent higher than in 2011. Following the favorable precipitation event in 2018-2019, the population declined again, ending the ten-year monitoring period down approximately 27 percent from its baseline, and again the latest decline was primarily related to cactus beetles, although young plant survivability also was a factor.

The TMP route use will result in the continuation of a variety of indirect and direct effects that are expected to increase over time due to increase in recreation and visitation and not as a result of the proposed TMP designation. The Price PRMP/EIS and the 2008 Biological Opinion considered the impacts from current designated routes in the TMA and because the proposed action increases the routes open for OHV use from 114 to 182 within occupied habitat, direct and indirect effects are expected to continue. The use of OHVs could create indirect effects such as dust and the introduction of weed species to the area caused by OHV travel. Additionally, direct, adverse effects to Wright fishhook cactus individuals and habitat could occur if there was unauthorized, off-trail/road use of OHVs. Direct, adverse effects could include trampling of individual plants and habitat degradation and fragmentation. Some monitoring efforts indicate that damage by off route OHV use was less than 1 percent of the individuals monitored, and other field visits observe OHV off route disturbance in places like Mesa Butte and I-70 where off route OHV use damaged the habitat and several individuals.

Based upon the effects described in 3.5.1 and 3.5.3.6, the Proposed Action *May Affect*, is *Likely to Adversely Affect* Wright fishhook cactus. According to the UFWs current range GIS layer (ECOS 2018), approximately 46 percent of the species entire range (potential habitat) and 58 percent of the known occupied habitat occurs within the TMA. The existing and proposed route networks occur through the habitat (Appendix C, map 14). Within the occupied habitat, 12,187 acres or 15% is within 300 ft of route, or the impact zone. Some of the effects would be mitigated because 6,430 ac or 8 percent of the occupied habitat and 25% of the potential habitat occurs within the designated Wilderness which would limit the threats caused by use of OHV or activities like mining. There is no Designated Critical Habitat for the species.

## 4. LIST OF PREPARERS

### 4.1. Bureau of Land Management

The staff listed in Table 4-1 assisted with assembling this BA and the associated EA and the TMP implementation guide it supports. Additional staff and contractors contributed to the route evaluation that supports the EA, the EA and Implementation Guide.

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## **Appendix B. ROUTE REPORTS**

### **B.1. Introduction**

Using the route evaluation inventory, a BLM IDT and their cooperators met for several planning sessions to systematically review and evaluate each of the routes. During route evaluation, the BLM IDT used the ARS Route Evaluation software and GIS to systematically review, discuss, and document each route's location, physical characteristics, current designations, operation and maintenance, authorized and permitted uses, public uses, associated biomes, all known natural and cultural resources, proximity to resources of concern, specially designated areas, purpose and need of the route, and resource issues. Each intensive evaluation session included ongoing interactive IDT and cooperator discussions of each route's resource and resource use concerns, as well as any route-specific public scoping information and Cooperator input available at the time of the evaluation process. For each route, the IDT also considered and addressed the 43 CFR § 8342.1 Designation Criteria, selecting applicable rationale demonstrating how the route would minimize impacts for each of the route's preliminary alternative designations. The process resulted in extremely thorough data capture, produced a preliminary range of reasonable designation alternatives for each route based on the alternative themes, and created a complete record of the process as documented in the route reports. The full collection of route reports is available on the BLM's [ePlanning site](#). Route reports provide a record of the IDT's evaluation of each route. The header of each page of a route report displays the number that was used to identify the route during evaluation (e.g., SS1112). The number placed on published maps and used on route signs may not be the same. Each route report includes three sections: "General Background," "Evaluation Information," and "Designation Alternatives." Disclaimer: Not all route reports will match perfectly with the analysis work completed in the Environmental Assessment (EA). Route reports are how BLM documented its process for reviewing routes on a route-by-route basis using the best data available at the time of evaluation. Since the original evaluations, new resource inventories have been completed and improved GIS layers have also been developed. BLM again chose to use the most current and best available data for the resource analysis work. Because of this situation and time gap, there may be some discrepancies between the route forms and the EA. BLM has attempted updating the routes forms periodically but recognize that some mistakes may still be present. When a discrepancy is found between the EA/GIS layers and a route forms, what is said in the EA and most recent GIS layers will supersede.

### **B.2. General Background**

The first part of the "General Background" section of a route report shows the route's evaluation session date, the name of the session's contracted facilitator (in this case, planners working for BLM's contractor), and the BLM resource specialists (biologists, archaeologists, recreation planners, etc.) responsible for evaluation of the route. The second part of the "General Background" section provides physical information about the route such as length, width, route class, use, jurisdictions over which it passes, and origin (if known). This section also discloses the level of maintenance a route receives, if any. Routes that are noted as bladed or regularly maintained are likely to see a higher level of use and, because they are bladed and tend to be wider

as a result of routine blading, minimize the need for vehicles to travel off-route for the purposes of passing or parking. Routes that are minimally (i.e., infrequently) maintained or for which no maintenance is recorded in the route report may occasionally receive light maintenance but tend to be narrower user-created two-track type routes. The route class identified by the IDT (Road, Primitive Road, or Trail as defined by Manual 1626 Travel and Transportation Manual) also helps define how the BLM would manage or maintain that specific route. Other information may also be included along with citizen comments and proposals, as applicable.

**\*\*SAMPLE\*\* Route Report for SS1112**

**Facilitator(s):** Cam Gale

**Initial Evaluation Date:** 10/10/2019

<b>Evaluators:</b>	<b>Jerrad Goodell</b> , Aquatic Ecologist	<b>Kegen Benson</b> , Biologist
	<b>Myron Jeffs</b> , Outdoor Recreation Specialist	<b>Stephanie Howard</b> , Branch Chief for NEPA and GIS
	<b>Michael Knight</b> , GIS Specialist	<b>Marc Johson</b> , Natural Resource Specialist
	<b>Veronica Kratman</b> , Realty Specialist	<b>Rebecca Anderson</b> , Geologist
	<b>William Brant</b> , Archaeologist	<b>Jason Carlile</b> , Range Specialist
	<b>Natalie Fewings</b> , Archaeologist	<b>Jim Davis</b> , Resource Specialist

<b>TMA:</b>	San Rafael Swell TMA		
<b>Management Zones:</b>	Phase 1		
<b>Length:</b> 1.32 mi.	<b>Width:</b> Motorcycle Track	<b>Class:</b> Trail	<b>Use Level:</b> Medium
<b>Route Type(s):</b>	Spur; Braided		
<b>Surface:</b>	None identified by IDT	<b>Maintained:</b> Minimally by County	
<b>Origin:</b>	None identified by IDT	<b>Constructed</b> None identified by IDT	
<b>Jurisdictions:</b>	BLM		

**Additional Information:** County Class D.

**General Evaluation Questions**

<b>Does this route:</b>		
• either wholly or in part, have a right-of-way grant or is it simply an officially-recognized route maintained by a county or another government agency?		<b>NO</b>
• provide commercial, private property, or administrative access, e.g., via permit, ingress/egress rights or other jurisdictional responsibility?		<b>YES</b>
• provide a principal means of connectivity within a Travel Management Area or Management Zone?		<b>NO</b>
• exist as a result of a previous agency land use or implementation-level planning document decision and is managed as a transportation facility asset?		<b>YES</b>
• provide an important linkage between Travel Management Areas or Management Zones?		<b>NO</b>
<b>Does this route provide network connectivity that contributes to recreational opportunities, access to specific recreation sites, public safety, or other public multi-use access opportunities enumerated in agency Organic laws?</b>		<b>YES</b>
<b>Might the continued use of this route potentially impact:</b>		
• State or Federal special status species or their habitat?		<b>YES</b>
• cultural or any other specially-protected resources or objects identified in Agency planning documents?		<b>YES</b>
• any special area designations, e.g., National Monuments?		<b>YES</b>

• any other resources of concern?	YES
Can the anticipated potential impacts to the identified resources be avoided, minimized, i.e., reduced to acceptable levels, or be mitigated?	YES
Can the commercial, private property, recreation or public uses of this route be adequately met by another route or routes that may minimize impacts to the resources identified as part of this evaluation or that may minimize cumulative effects on various other resources?	NO

### B.3. Evaluation Information

#### B.3.1 Introduction

Evaluation information in a route report is divided into three colored boxes that address the topics of commercial, administrative, property, and economics (yellow); public uses (blue); and special resource concerns (green).

The first part of the “Evaluation Information” section focuses on commercial, administrative, property, and economic issues. In this section, a listing of facilities and access is provided. There are three types of access identified:

- Primary = Main access
- Alternate = Secondary or backdoor access
- Link = Route necessary for use of the primary access

#### Evaluation Information

Commercial, Administrative, Property and Economics	
The following items help to identify the <u>purpose and need</u> of this route. This route provides access to the following facilities and/or jurisdictions for the purpose of carrying out administrative and/or authorized operations or for jurisdictional access.	
<b>Primary Access</b> ( <i>leads directly to the listed jurisdiction or facility, and IS the main route used for access</i> )	
Type	Description
Lease Facilities	Commercial Rec Permit
Range Facilities	Active Allotment
Mineral Facilities	Mining claim
<b>Alternate Access</b> ( <i>leads directly to the listed jurisdiction or facility, but IS NOT the main route used for access</i> )	
Type	Description
None identified by IDT	
<b>Link Access</b> ( <i>does not lead directly to the listed jurisdiction or facility, but is required to access a primary access route</i> )	
Type	Description
None identified by IDT	

### B.3.2 Public Uses

The second part of the “Evaluation Information” section focuses on public uses and provides a list identifying the facilities, modes of transportation, and activities associated with the route. If a facility, mode of transportation, or activity was not identified as associated with the route, it is not listed. As in the Commercial, Administrative, Property, and Economics section, facility access is listed using the categories of “Primary,” “Alternate,” and “Link.” Mode of transportation and activity are indicated by:

- Primary = Main mode or activity on the route
- Secondary = Other common modes and activities
- Infrequent = Uncommon modes or activities

Recreational Uses	
The following items help to identify the <u>purpose and need</u> of this route. This route:	
<ul style="list-style-type: none"> <li>• provides public travel access to the listed recreation sites using the listed travel modes, and/or</li> <li>• provides for recreational activity and experience opportunities in the area, and/or</li> <li>• provides important route network connectivity for recreational access between two or more other routes.</li> </ul>	
<b>Primary Access/Uses</b> ( <i>main route used to access the destinations or use activities listed</i> )	
Type	Description
Activities	Vehicle Exploring
Modes of Transportation	Motorcycle
<b>Alternate Access / Secondary Uses</b> ( <i>used to access the destinations or use activities listed, but not considered the main route</i> )	
Type	Description
None identified by IDT	
<b>Link Access / Infrequent Uses</b> ( <i>rarely used to access the destinations or use activities listed</i> )	
Type	Description
Activities	Camping
Modes of Transportation	ATV

### B.3.3 Special Resource Concerns

The third part of the “Evaluation Information” section focuses on special resource concerns. General issue questions for special resource concerns are answered. Then resources and concerns are identified. These are grouped into general categories such as:

- Biome
- ESA-listed animals
- Managed species
- Resource issues, etc.

In the “Special Resource Concerns” box, routes are characterized as:

- In = Route or a portion of the route is in the resource area or area of concern
- Leads To = Route provides access to the resource area or area of concern but is not in the resource or area
- Crosses = Route crosses the resource (e.g., a route crossing a stream or a cultural site directly on the route)
- Prox = Proximate to; the route is near the resource or area of concern as indicated by the distance

Resource and Use Issues	
The following items help to identify potential natural and cultural resource issues associated with the location and use of this route. This route is located in, leads to, crosses, or is within a set distance of the following resources or issues.	
Resource Type	Description
Biomes	In Mixed Desert Saltbush
	In Other - Wash, Intermittent, Perennial (Intermittent stream)
	In Mixed Sagebrush Shrubland
Special Status Animals	In Fringed myotis modeled habitat (S)
	In Spotted bat modeled habitat (S)
	In Townsend's big-eared bat modeled habitat (S)
	Within 1800 feet of Yellow-billed cuckoo potential habitat (T)
	Within 1800 feet of Southwestern willow flycatcher potential habitat (E)
Managed Species	Crosses White-tailed prairie dog modeled habitat (S)
	In Pronghorn year-long substantial habitat
	Within 1800 feet of Migratory bird high-value habitat
Special Status Plants	In Thompson's talinum, Cedar mountain flameflower ( <i>Phemeranthus thompsonii</i> )
VRM/RSC	In VRM Class III - Partially Retain existing char.
	In Inventory Class III
Special Management Areas	In Lands w/ Wilderness Character
Water Resources	Crosses Wash
	Crosses Intermittent stream
Misc. Resources	In PFYC Class 2 - Low
	In Erosive soil - High potential / saline soils
	In Cryptobiotic soil
	In Erosive soil - Moderate potential
	In PFYC Class 3 - Moderate
Resource Issues	In PFYC Class 5 - Very high
	In Noxious weeds
<i>Note: Specific sensitive resources, such as cultural resources, paleontological resources, or threatened or endangered species are not listed in this report for their protection, but were considered during the evaluation of this route.</i>	

### B.3.4 Designation Alternatives

The route report also contains the IDT’s evaluation of alternative designations for each route. Alternative A (No Action) simply states the current route and area designation (no color). The action alternatives (Alternatives B, C, and D in this example) are color-coded to “Open w/Management” or “Open” (green), “Limited w/Management” or “Limited” (orange), and “Closed” (pink). For Open and Limited designations, “w/ Management” indicates that there are types of limitations, and that there would be adaptive management or other specific mitigation, maintenance, and/or monitoring that was identified during evaluation. The “w/ Management” portion of Limited and Open designation labels are route specific; it is not used in designation labels found earlier in this document. If there is management assigned to the selected designation for the route, that management will be required as part of the TMP. All management actions are listed in the tables of Appendix H (Implementation Guide). Limited alternatives include specific limitations regarding route use (e.g., limited by season, vehicle width, etc.). For Closed alternatives, information is provided about how routes would be closed/decommissioned. Also, if a route is redundant to another route, that is specified. The Designation Alternatives also documents how the BLM IDT assessed the manner in which each potential route designation within the TMA is consistent with 43 CFR § 8342.1

#### Potential Alternative Route Designations

<b>Alternative A</b> (Current Management, No Action Alternative)
<p><b><u>Area Designation:</u></b> Limited</p> <p><b><u>Route Designation:</u></b> Open</p> <p><b><u>OHV Public: Designation per 43 CFR § 8342.1: Open</u></b> - The public may use this route by all motorized modes, year-round.</p>
<b>Alternative B</b> <p><b><u>Route Designation:</u></b> CLOSED</p> <p>This route will be decommissioned and not managed as a BLM transportation asset. Unless otherwise signed, cross-country foot and animal use is allowed in the area.</p> <p><b><u>OHV Public: Designation per 43 CFR § 8342.1: Closed</u></b></p> <p><b><u>Specific Designation Criteria Addressed and Relevant to Route Issues:</u></b></p> <ul style="list-style-type: none"> <li>• 43 CFR § 8342.1 (a) Areas and trails shall be located to minimize damage to soil, watershed, vegetation, air, or other resources of the public lands, and to prevent impairment of wilderness suitability.</li> <li>• 43 CFR § 8342.1 (b) Areas and trails shall be located to minimize harassment of wildlife or significant disruption of wildlife habitats. Special attention will be given to protect endangered or threatened species and their habitats.</li> </ul> <p><b><u>How Designation Addresses Criteria Above:</u></b> Closing this route would reduce overall impact of vehicle use and route footprint in the area. Closing this route would minimize potential impacts to wildlife habitats by eliminating motorized use and removing the route footprint. By closing this route, traffic volume in the area would be reduced, minimizing the potential for impacts to sensitive animal species. Per the Settlement, BLM is directed to analyze within LWCs at least one alternative route network that would enhance BLM-inventoried wilderness characteristics by designating the routes or the relevant portions thereof as closed to public ORV use.</p>



impacts to documented resources by providing targeted recreation activity and experience opportunities that reduce or eliminate the inclination for users to travel off-route.

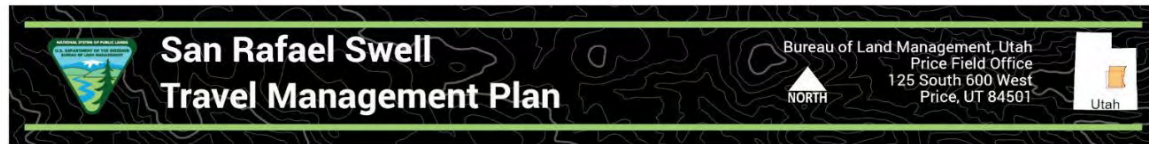
**Designation Criteria Addressed but Not Relevant to Route Issues:**

*(no known conflicts among users or no known resource concerns to minimize for)*

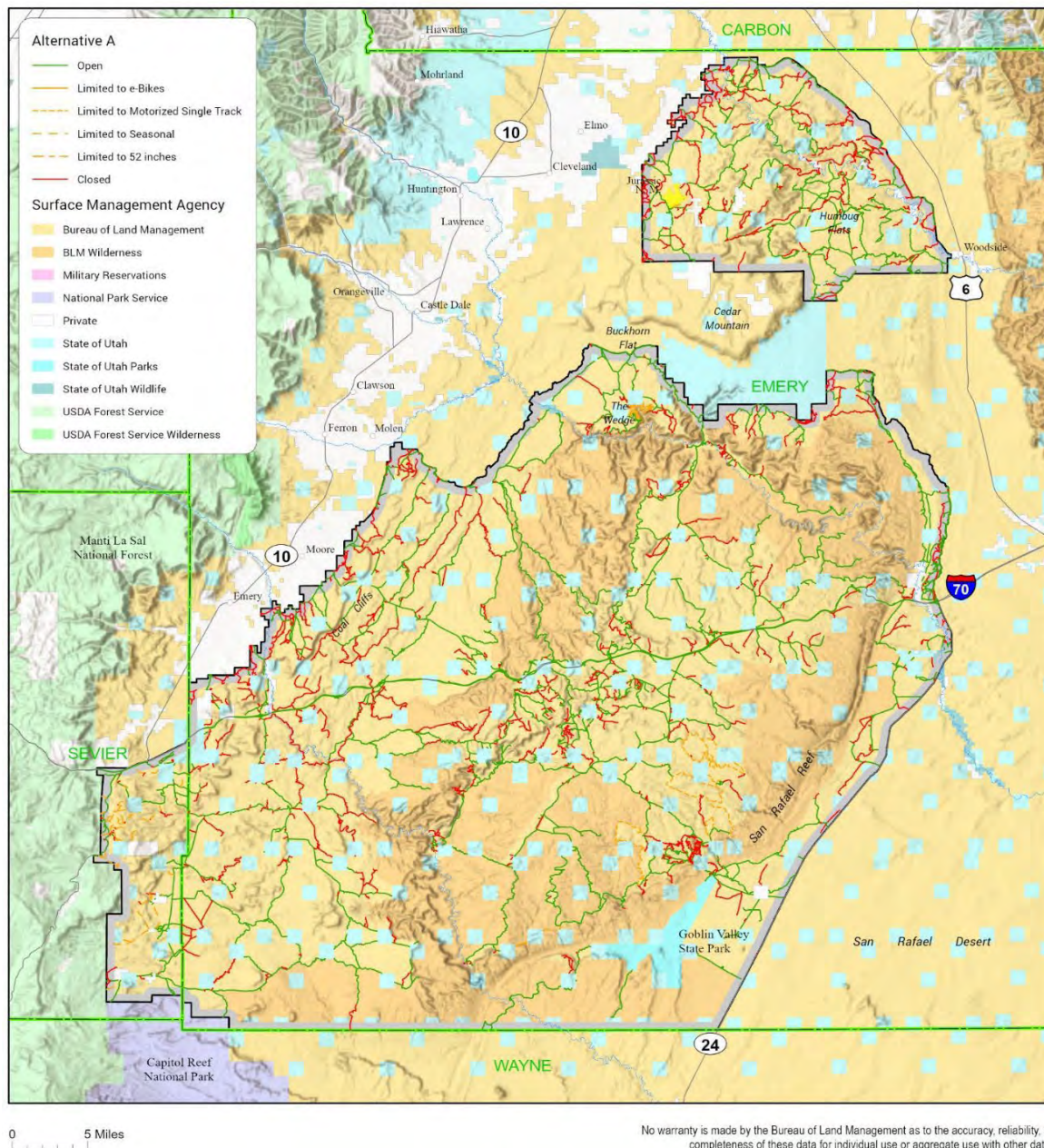
- 43 CFR § 8342.1 (c)
- 43 CFR § 8342.1 (d)

## **Appendix C.    MAPS**

## MAP 1. CURRENT ENVIRONMENT (ALTERNATIVE A)



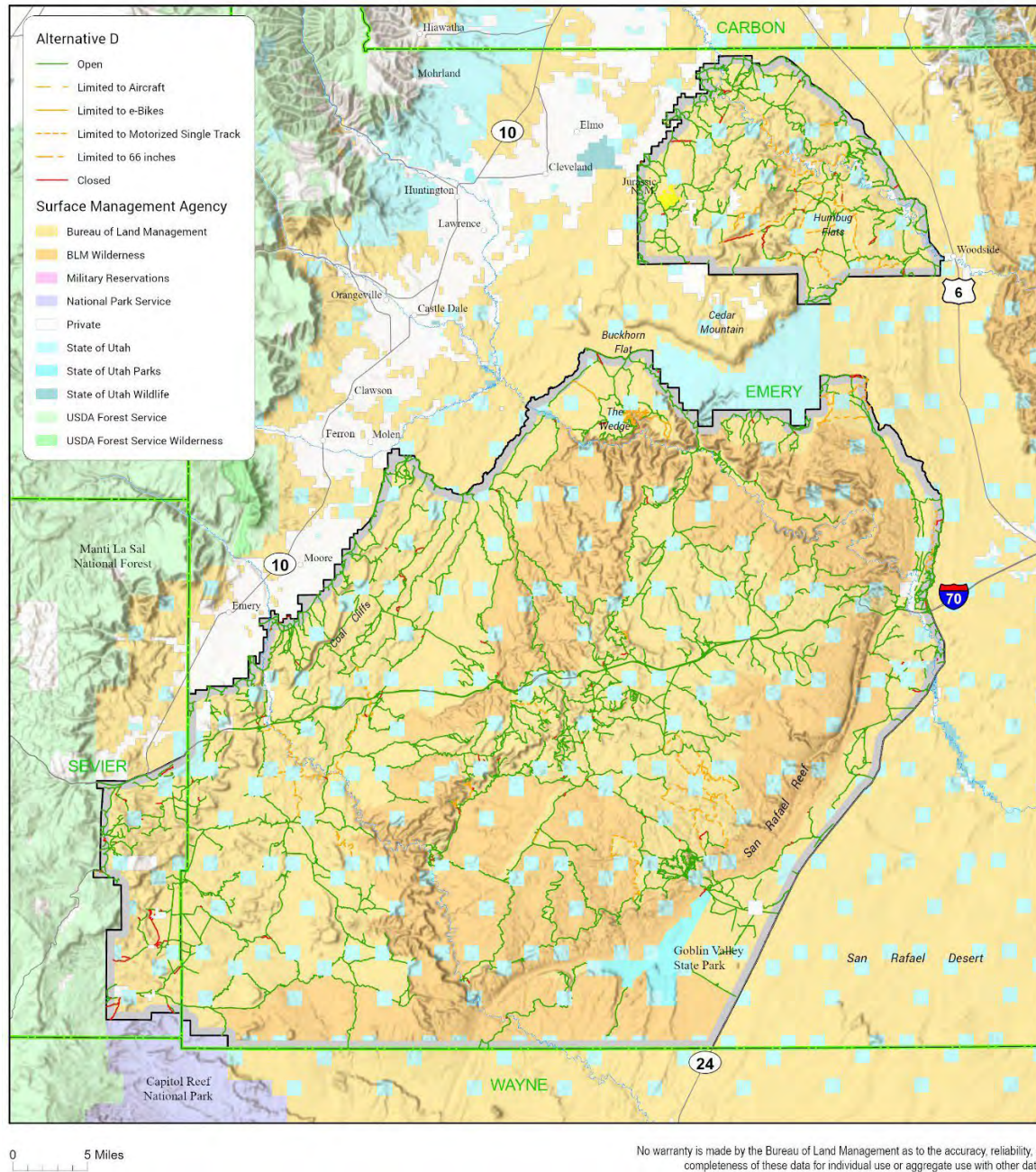
Map 1: Current Management



## MAP 2. PROPOSED ACTION (ALTERNATIVE D)



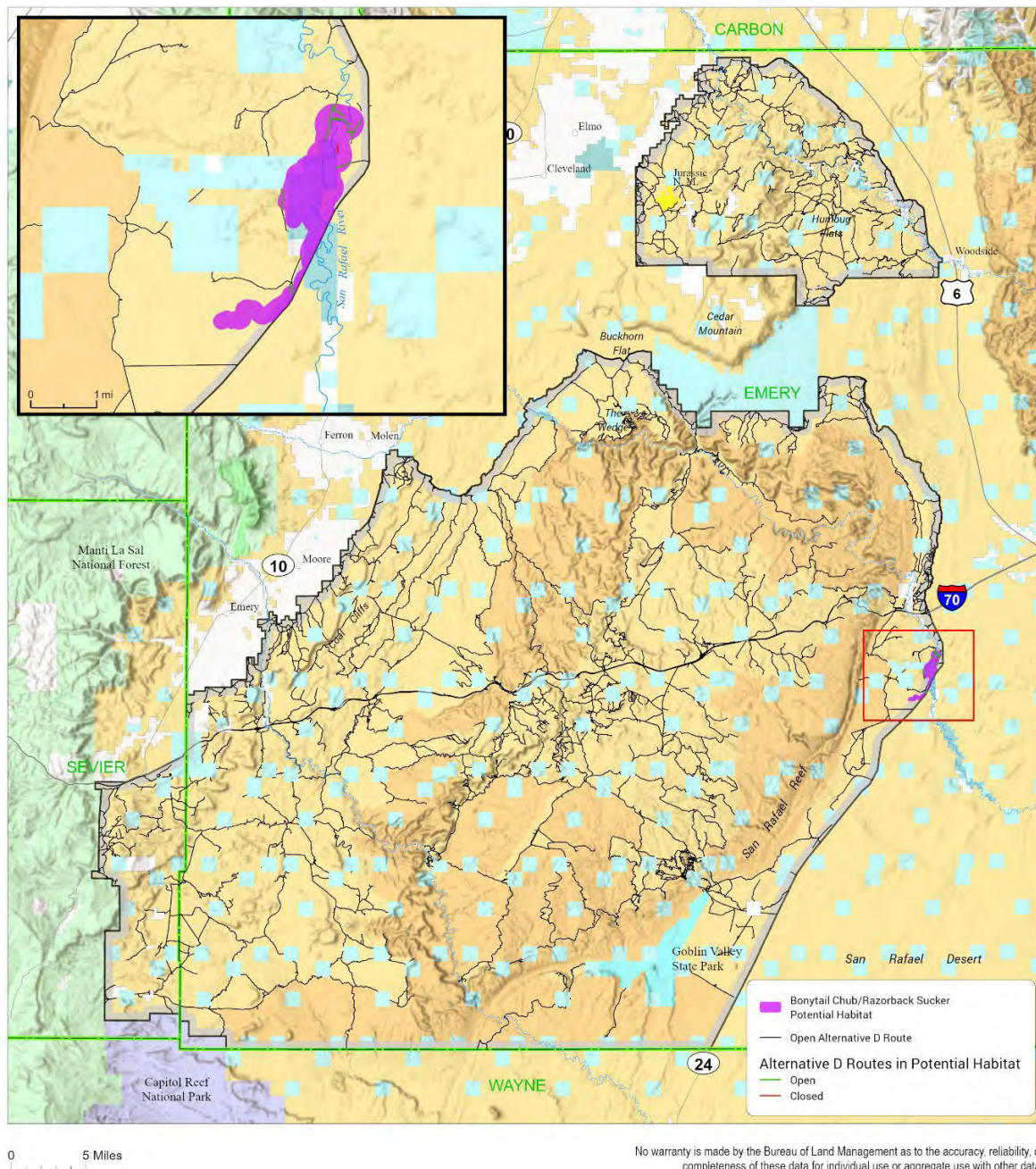
Map 2: Proposed Travel Management Plan



## MAP 3. BONYTAIL AND RAZORBACK SUCKER



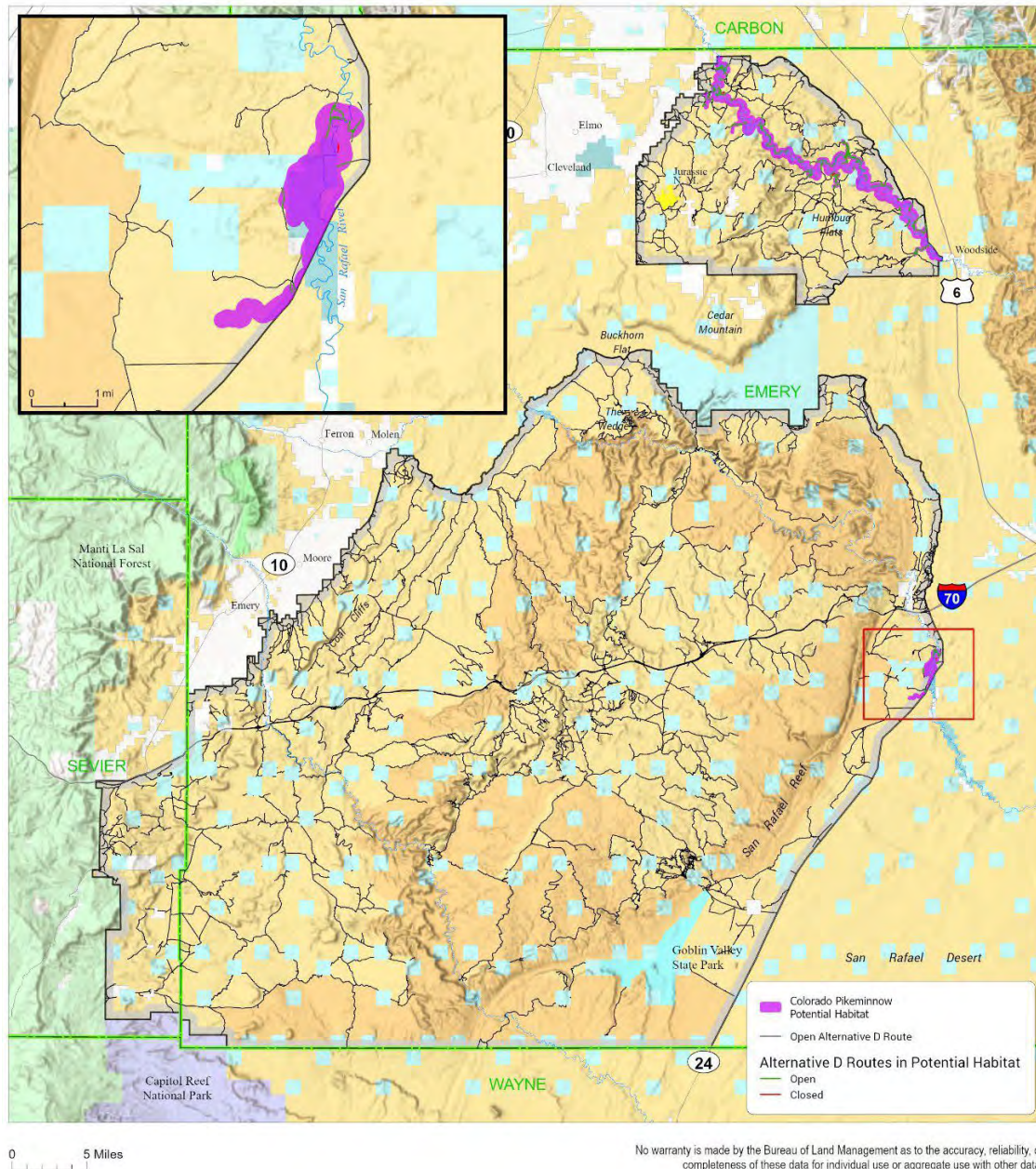
Map 3: Bonytail Chub and Razorback Sucker



## MAP 4. COLORADO PIKEMINNOW



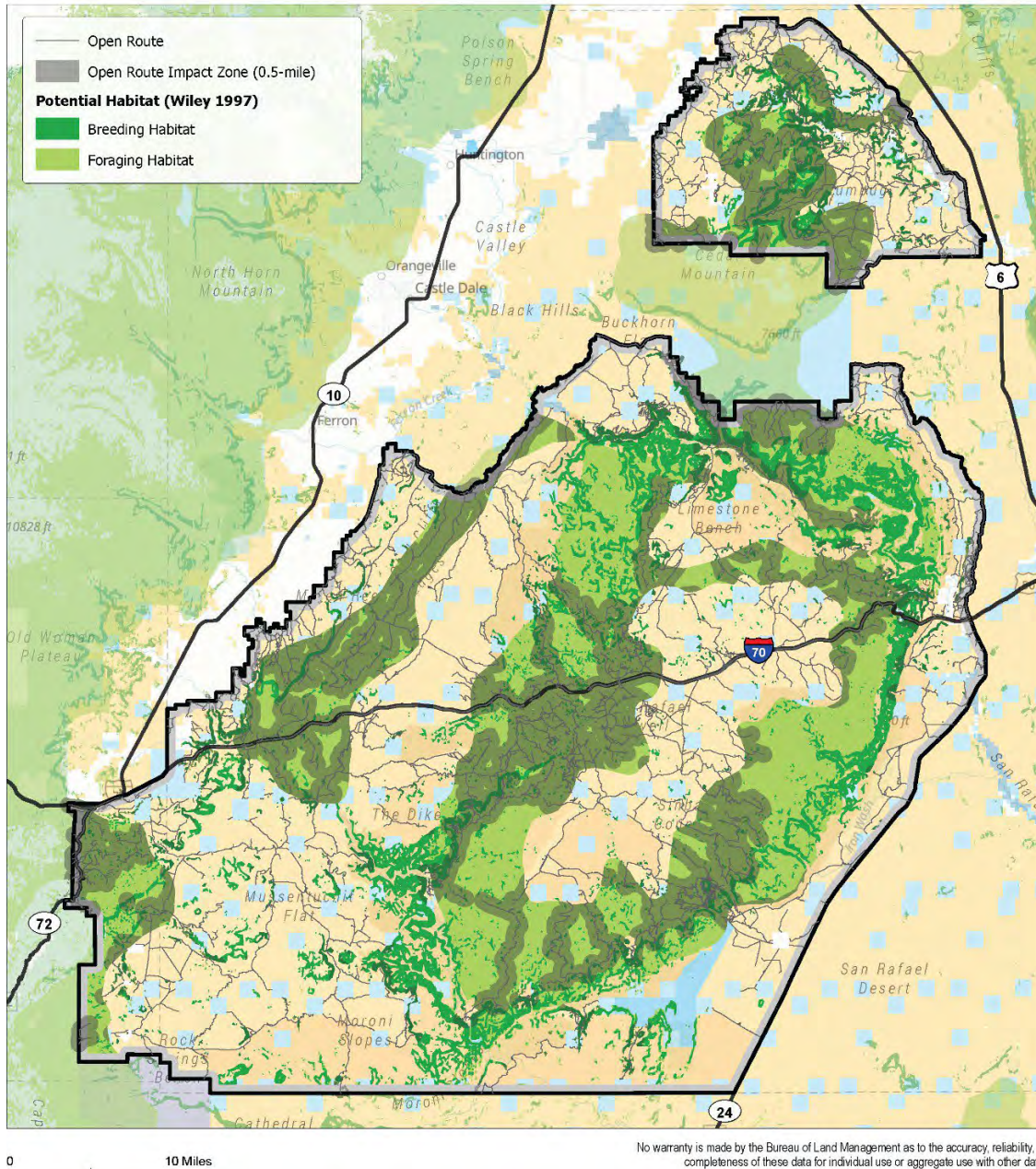
Map 4: Colorado Pikeminnow



## MAP 5. MEXICAN SPOTTED OWL



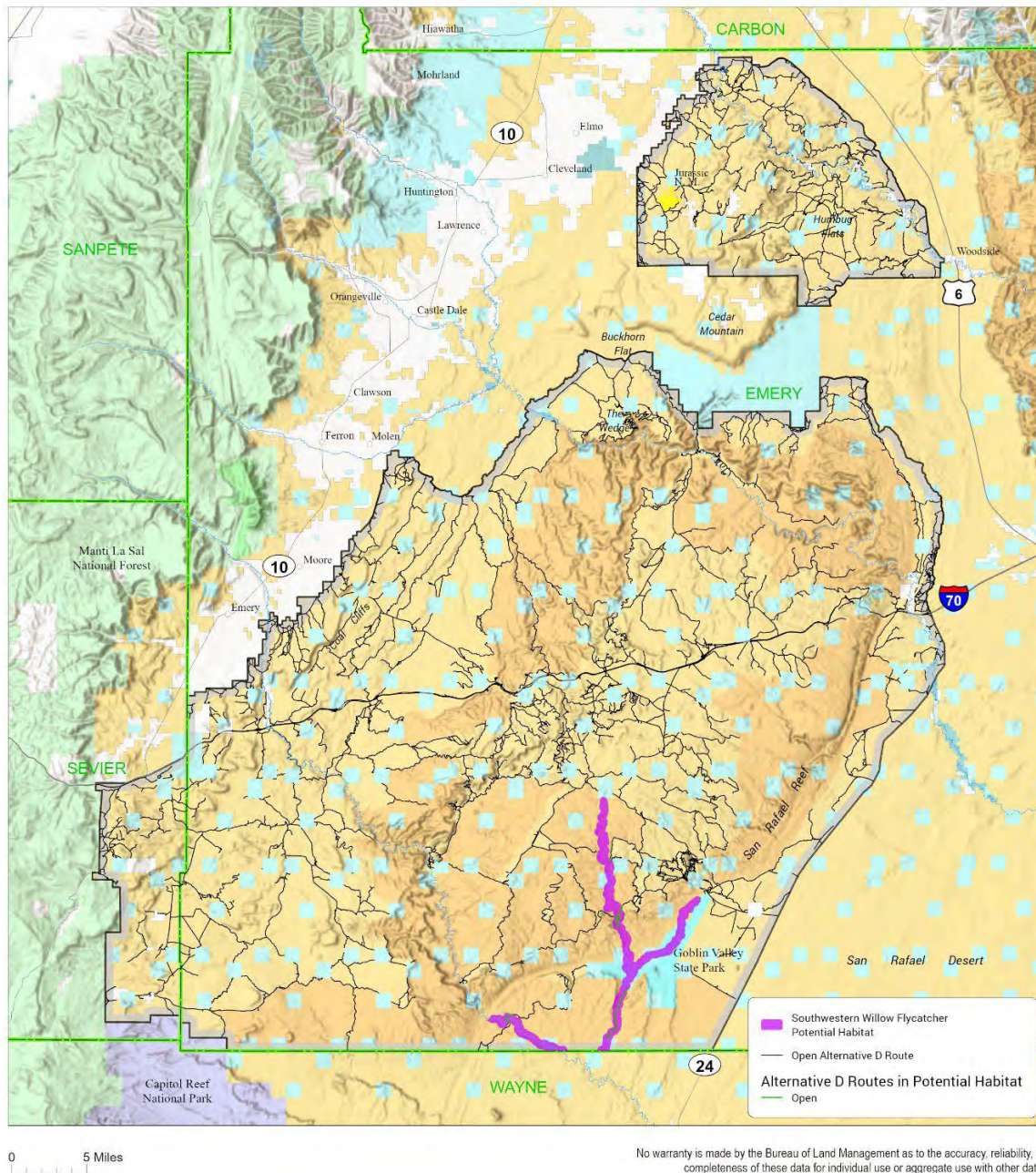
Map 5: Alternative D Open Routes in Potential Mexican Spotted Owl Habitat



## MAP 6. SOUTHWESTERN WILLOW FLYCATCHER



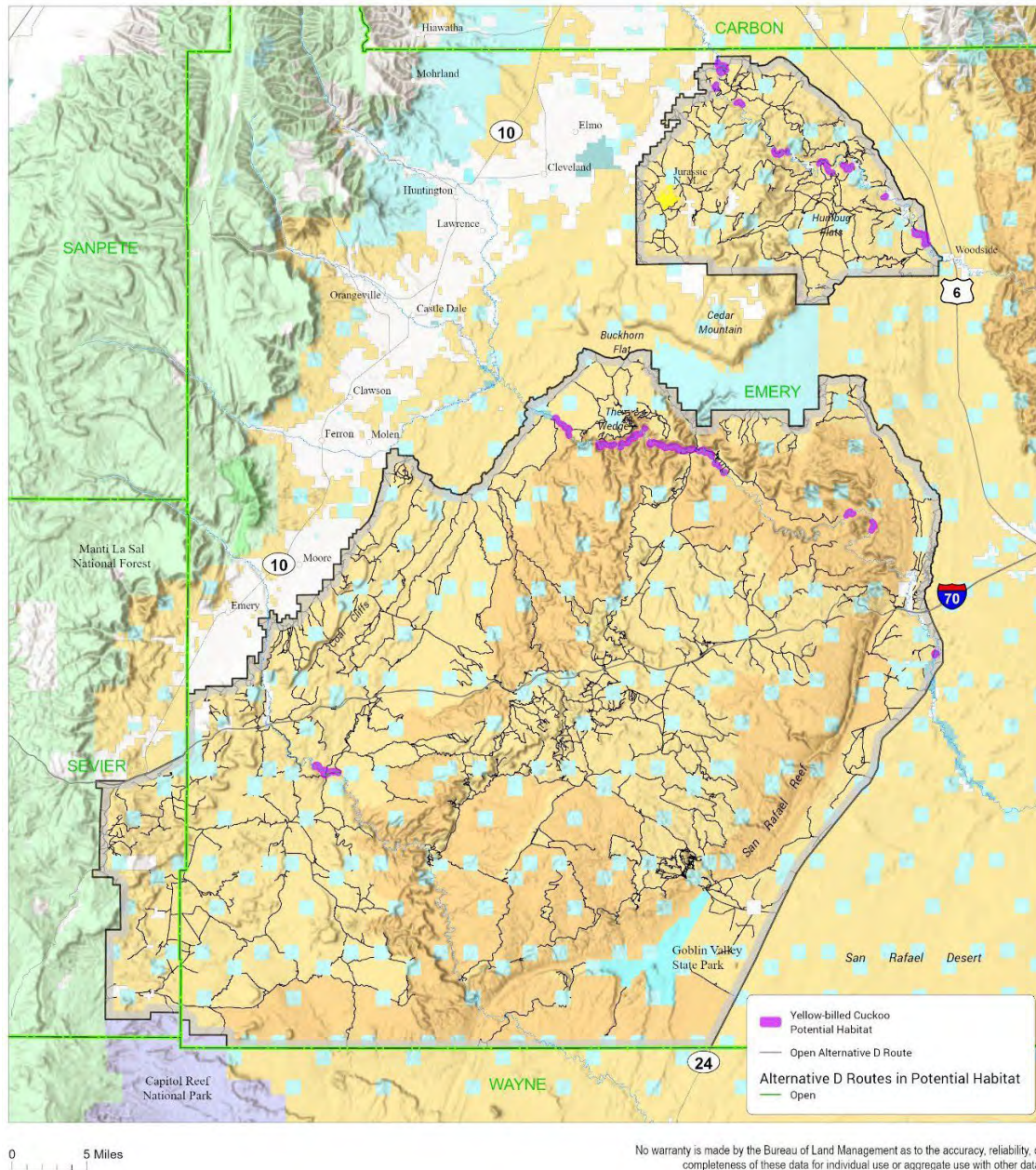
Map 6: Southwestern Willow Flycatcher



## MAP 7. YELLOW-BILLED CUCKOO



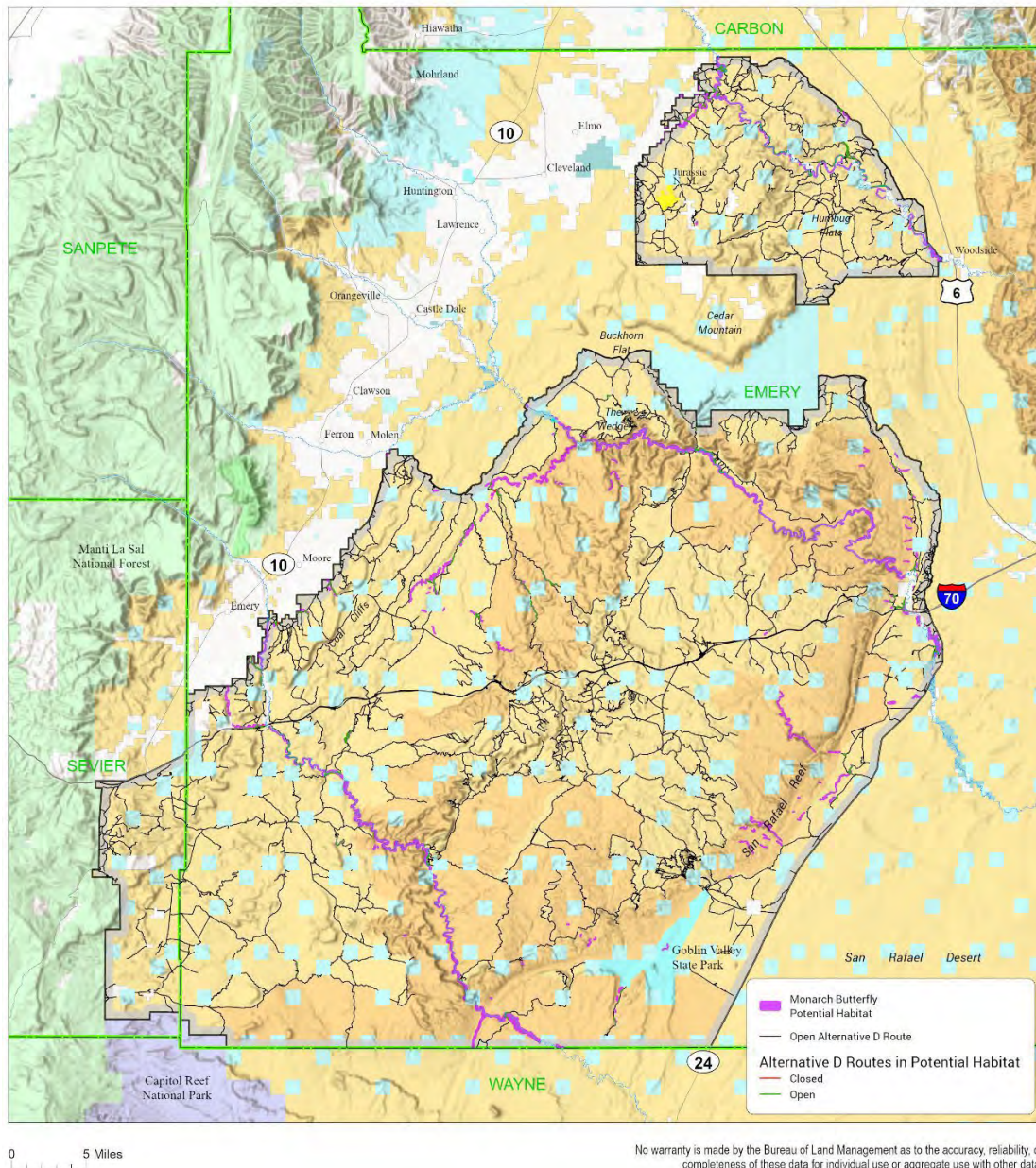
Map 7: Yellow-billed Cuckoo



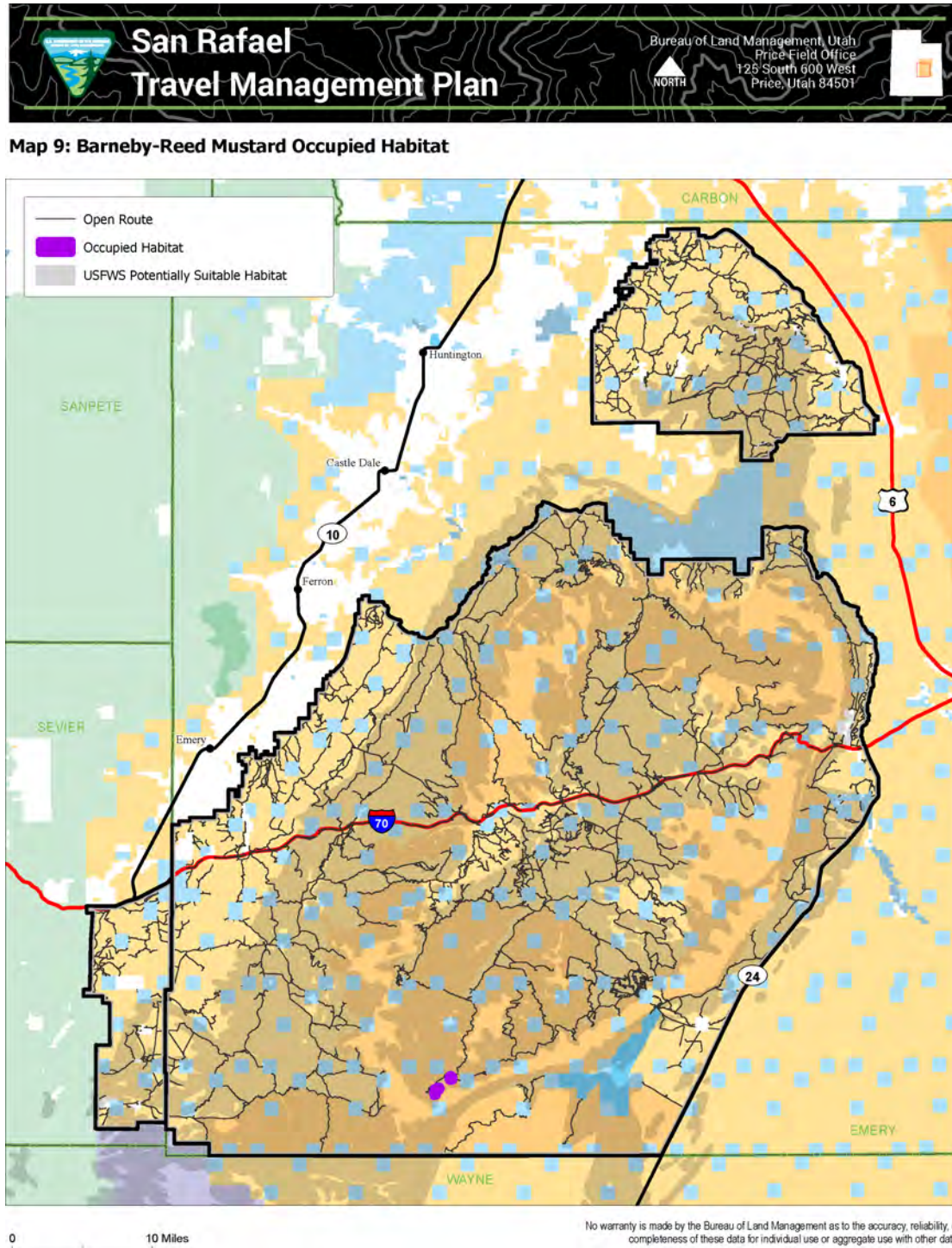
## MAP 8. MONARCH BUTTERFLY



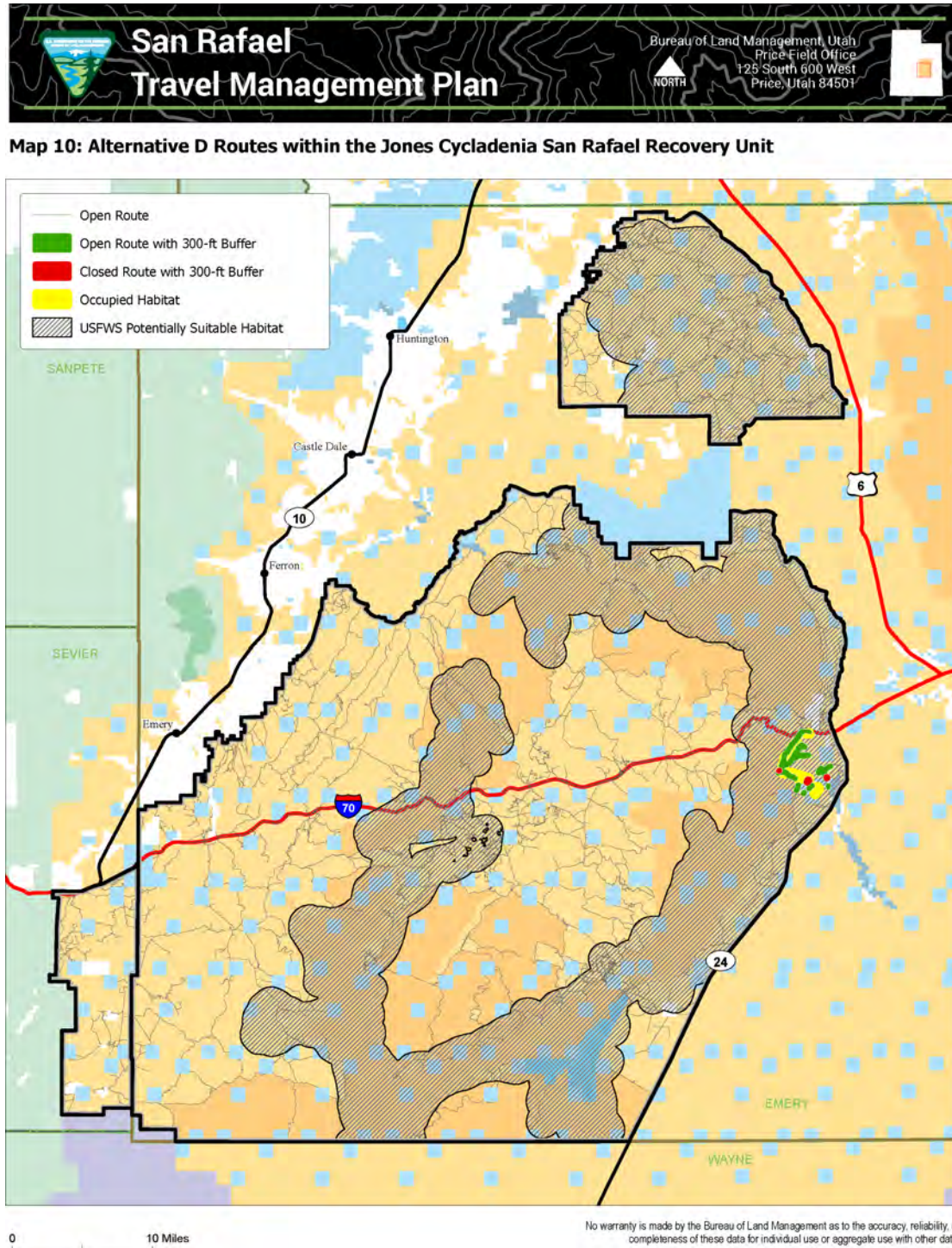
Map 8: Monarch Butterfly



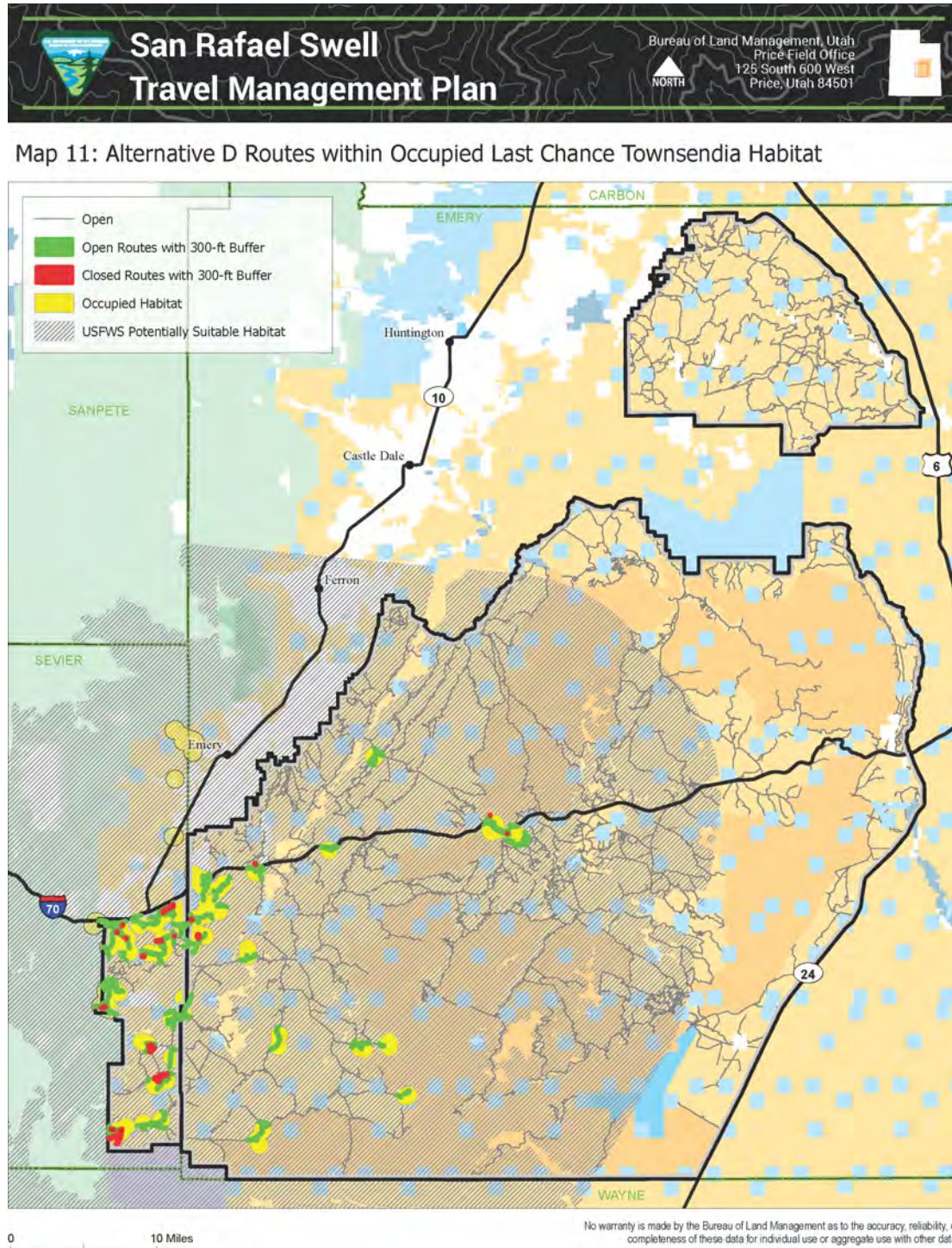
## MAP 9. BARNEBY REED MUSTARD



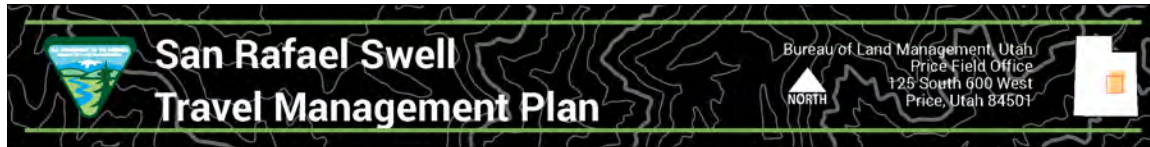
## MAP 10. JONES CYCLADENIA OCCUPIED HABITAT



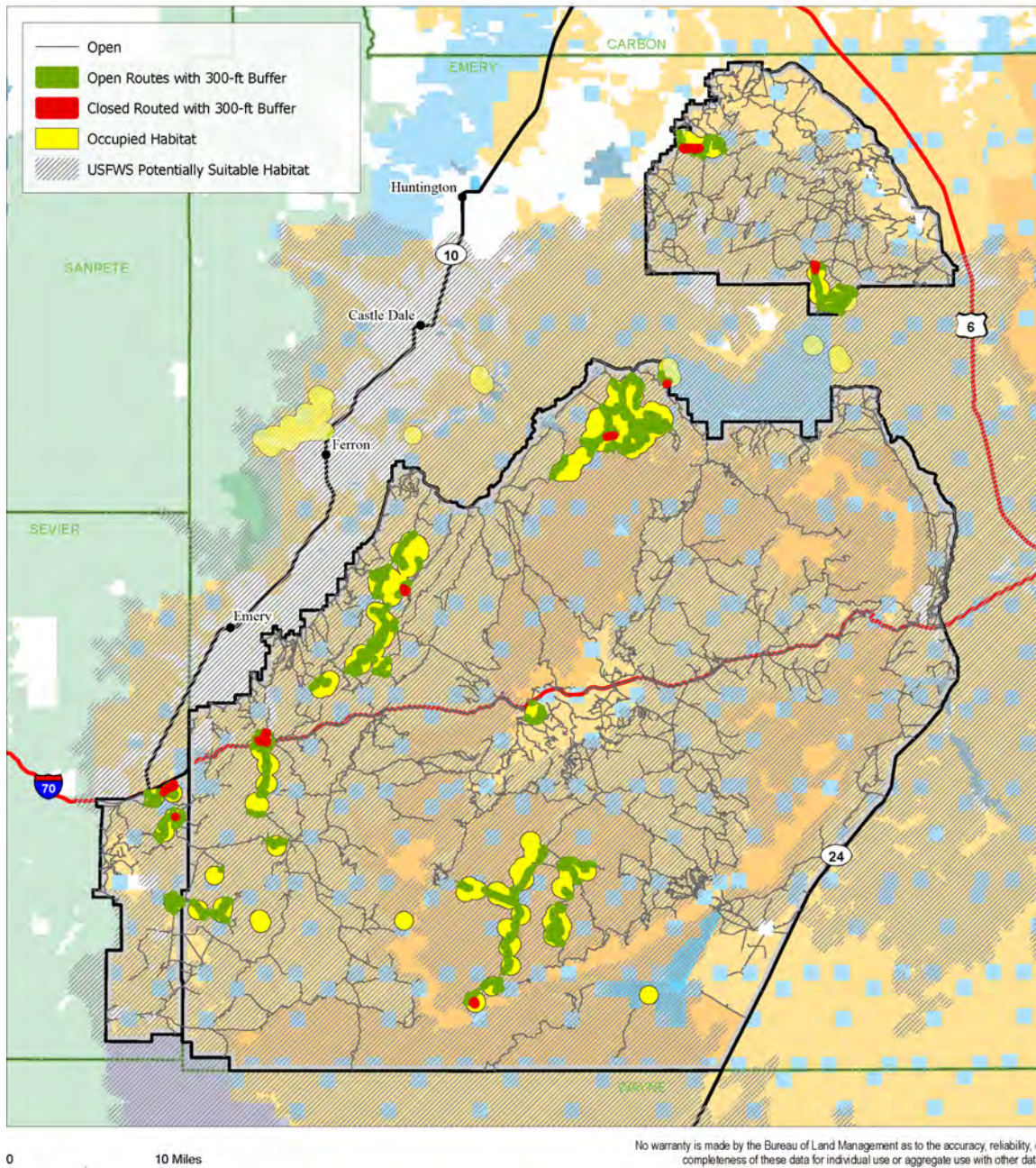
## MAP 11. LAST CHANCE TOWNSENDIA OCCUPIED HABITAT



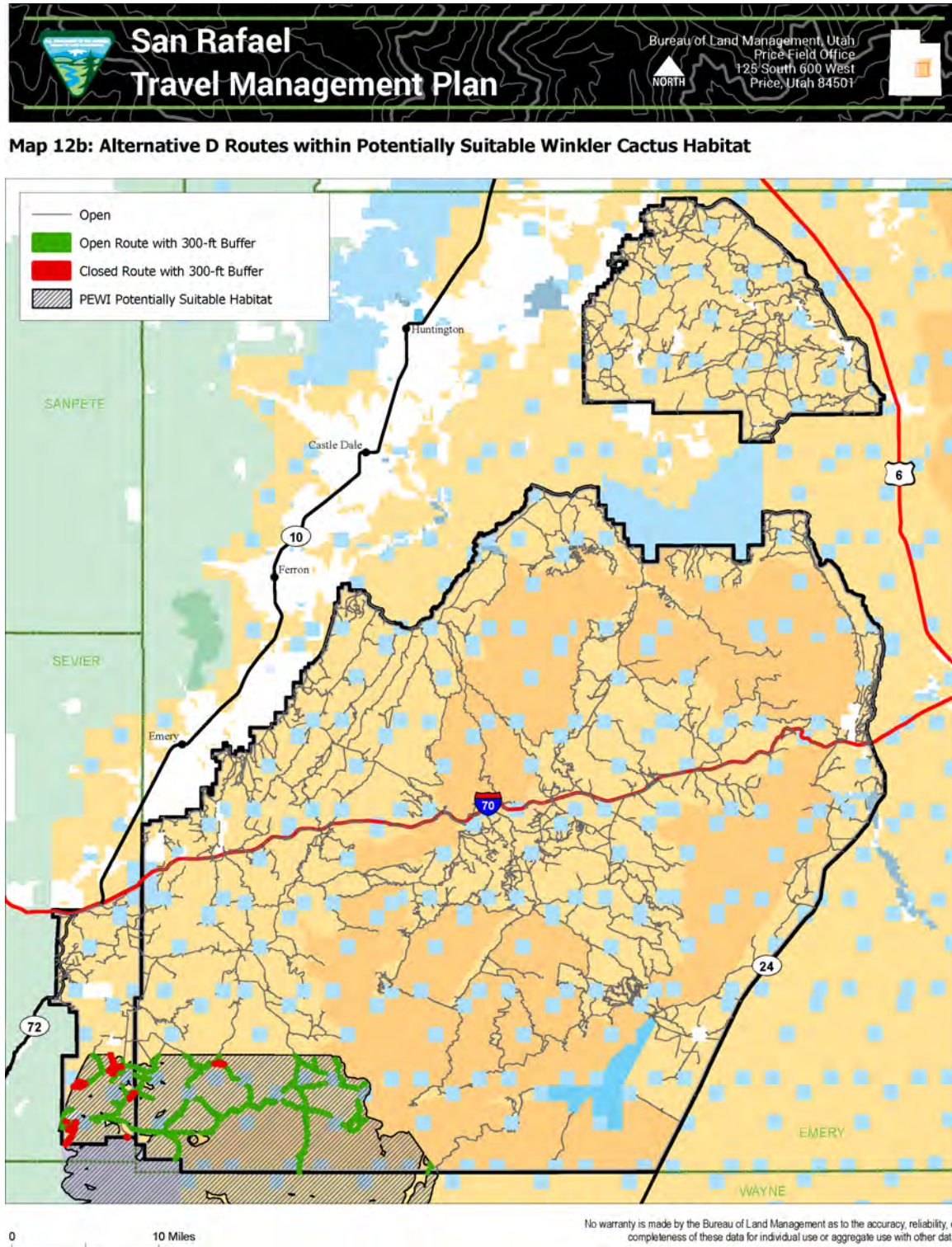
## MAP 12A. PEDIOCACTUS SPP.



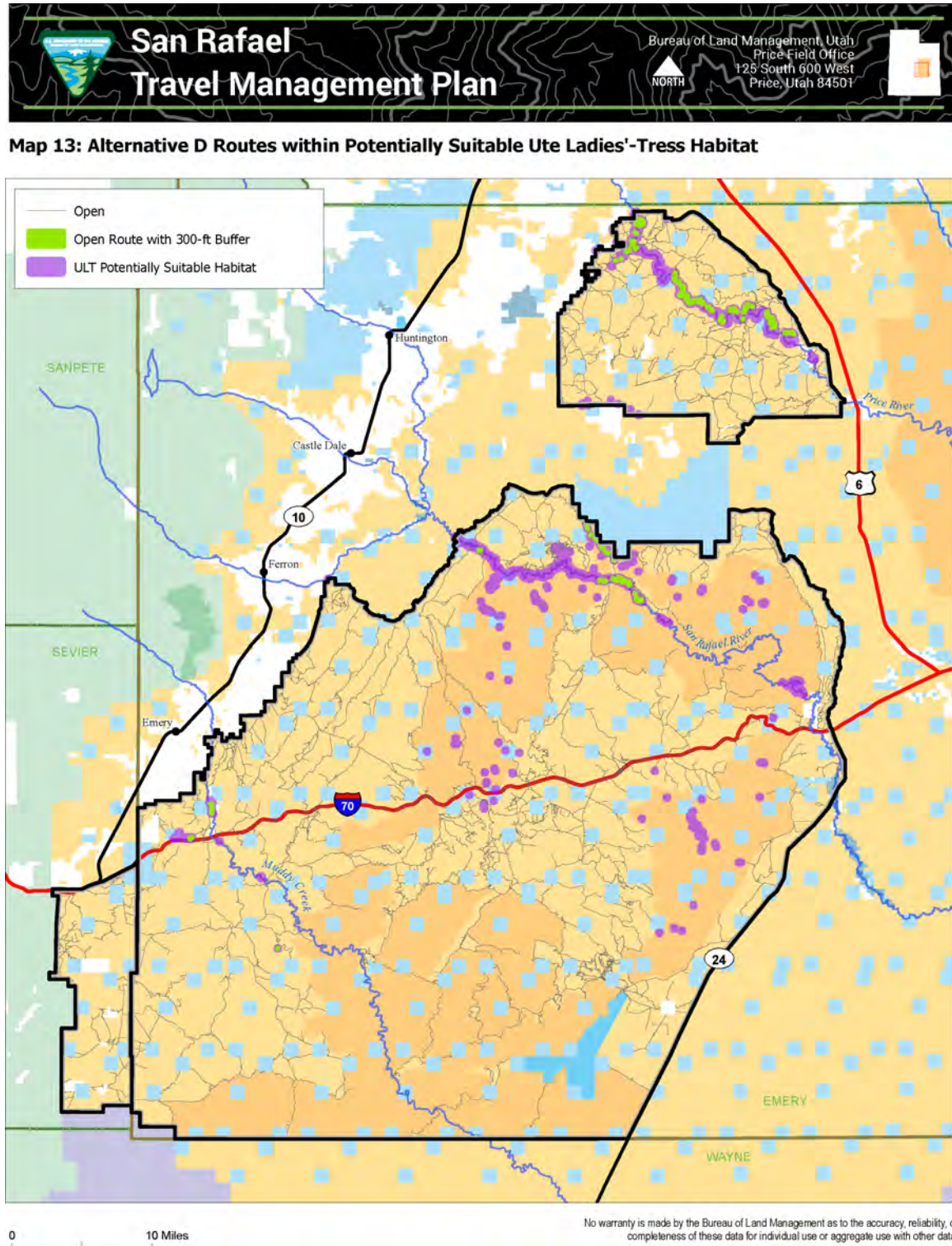
Map 12a: Alternative D Routes within Occupied San Rafael Cactus Habitat



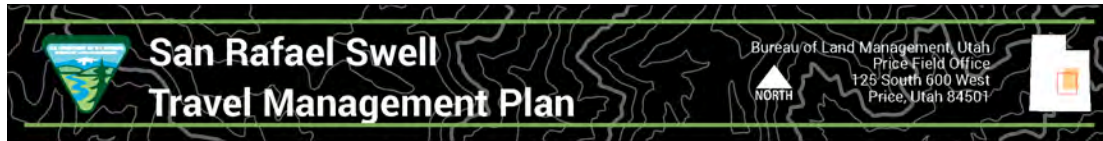
## MAP 12B. PEDIOCACTUS SPP.



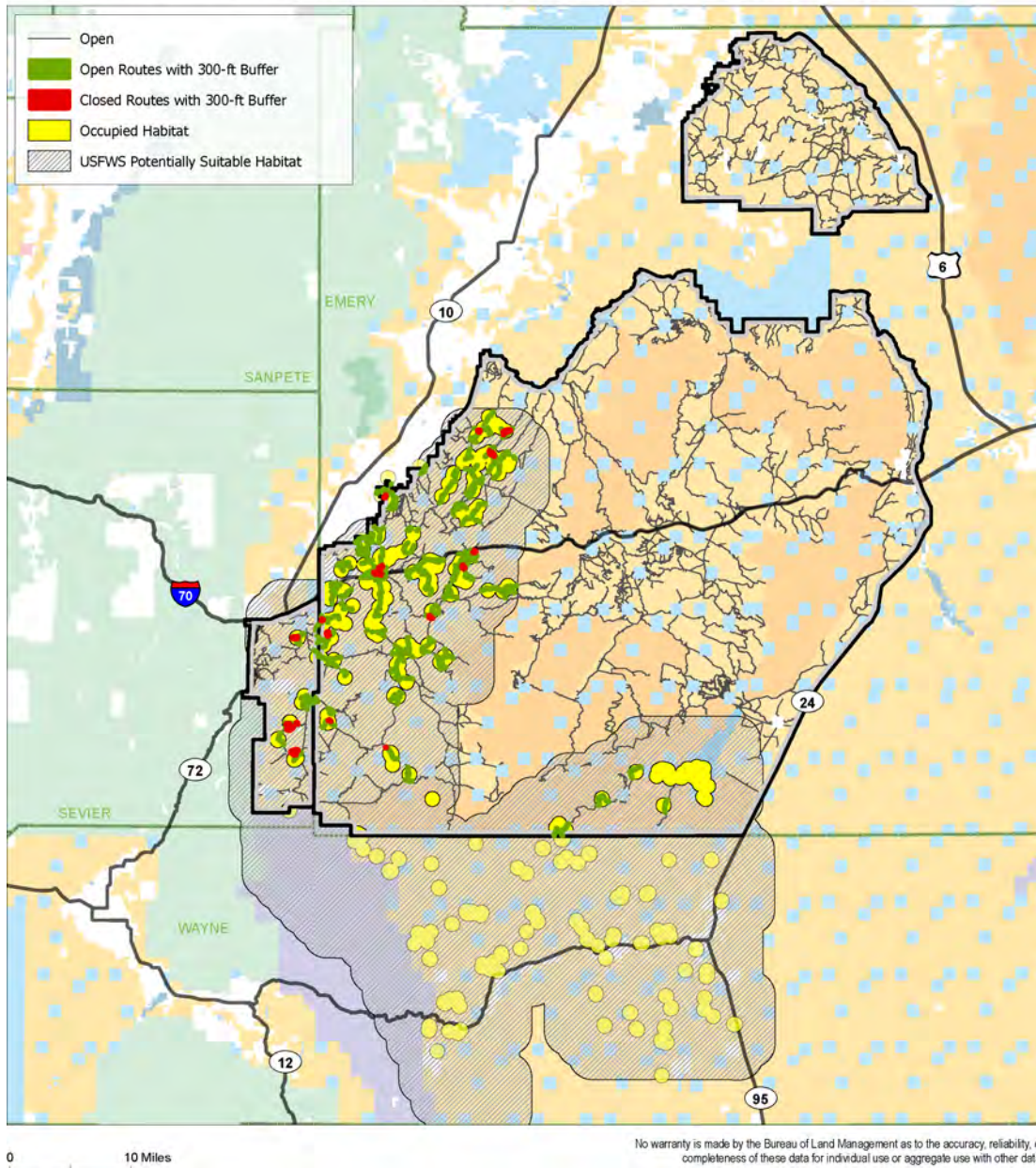
## MAP 13. UTE LADIES'-TRESS HABITAT



## MAP 14. WRIGHT FISHHOOK CACTUS OCCUPIED HABITAT



Map 14: Alternative D Routes within Occupied Wright Fishhook Cactus Habitat



## **Appendix D. SAN RAFAEL SWELL TRAVEL PLANNING BIOLOGICAL REPORT**

### **D.1. Biological Resources**

The PFO RMP and the Richfield RMP states the BLM will implement the decisions of the selected plan in compliance with the Endangered Species Act, as amended. The BLM will conduct Section 7 consultation with the U.S. Fish and Wildlife Service (USFWS) on listed plant and animal species as necessary for individual actions taken under this plan. The BLM will not authorize any action that will contribute to the need to list any non-listed ESA-listed species (16 USC 1536 (a) and 50 CFR 402). Management of Bureau Sensitive Species falls under the BLM 6840 Manual, which establishes procedures for the management of species designated as BLM sensitive, Birds of Conservation Concern, and their habitats. The BLM shall designate Bureau sensitive species and implement measures to conserve these species and their habitats, to promote their conservation and reduce the likelihood and need for such species to be listed under ESA. The BLM also includes species of concern that the State of Utah has identified into its sensitive species analysis. Prior to implementing the San Rafael Swell Travel Management Plan, the USFWS's IPaC list (USFWS 2024) was reviewed together with the BLM Sensitive Plant and Sensitive Wildlife Species lists for Utah to ensure due consideration was given to potentially affected resources during the planning process.

Surveys, inventories, and habitat models for listed and proposed species have been conducted and developed for many years by various individuals, organizations, and government agencies. They include, but are not limited to, the Bureau of Land Management, the Forest Service, U.S. Fish and Wildlife Service, U.S. Geological Survey, universities, and state wildlife and natural resource agencies. Information gathered from these surveys, inventories, observations, and models was used to help describe and determine species distributions, habitat use, and habitat suitability. The tables below give the details about the species' potential occurrence within the Swell Travel Management Area (TMA) and if the species was carried forward for analysis within the Biological Assessment or associated Environmental Assessment.

## D.2. Summary Tables for Endangered, Threatened, Candidate, and BLM Sensitive Species

**Appendix Table 0-1: Plant Species**

Common Name	Conservation Status	Considered for Further Analysis
Barneby reed-mustard	Endangered	Yes
Jones Cycladenia	Threatened	Yes.
Last Chance townsendia	Threatened	Yes.
Navajo sedge	Threatened	No.
San Rafael cactus	Endangered	Yes
Shrubby reed-mustard	Endangered	No.
Uinta Basin hookless cactus	Threatened	No.
Ute's Ladies' Tresses	Threatened	Yes.
Winkler cactus	Threatened	Yes.
Wright fishhook cactus	Endangered	Yes.

**Appendix Table 0-2: Bird Species**

Common Name	Conservation Status	Considered for Further Analysis
California Condor	Experimental Population, Non- Essential	No.
Mexican Spotted Owl	Threatened	Yes.
Southwestern Willow Flycatcher	Endangered	Yes.
Yellow-billed Cuckoo	Threatened	Yes.

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**Appendix Table 0-3: Fish Species**

Common Name	Conservation Status	Considered for Further Analysis
Humpback Chub	Threatened	Yes.
Colorado Pikeminnow	Endangered	Yes.
Bonytail	Endangered	Yes.

Common Name	Conservation Status	Considered for Further Analysis
Razorback Sucker	Endangered	Yes.

**Appendix Table 0-4: Mammal Species**

Common Name	Conservation Status	Considered for Further Analysis
Utah Prairie Dog	Endangered	No.

**Appendix Table 0-5: Insect Species**

Common Name	Conservation Status	Considered for Further Analysis
Monarch Butterfly	Candidate	Yes.

### D.3. Rationale Tables

**Appendix Table 0-6: Endangered, Threatened, and Proposed Plant Species**

Common Name	Scientific Name	Habitat and Range Description	Considered for Further Analysis.
Barneby reed-mustard	<i>Schoenocrambe barnebyi</i>	Most of the known occupied sites are on cool, steep, north-facing, mid to upper- slopes within pinyon pine-juniper communities. Prefers coarse soils derived from cobble and gravel river terrace deposits, or rocky surfaces. Plants also may occur on different exposures in the higher elevation sites, potentially due to cooler temperatures (USFWS 2021b). Though mostly found on the Moenkopi Formation it is also known from Kaibab Limestone, Chinle, Cutler, and Carmel formations (USFWS 1994).	Yes. Individuals of this species have been recorded within the Travel Management Area (TMA) and the only two recorded populations in Utah are from cool, shaded, north facing slopes at higher elevations in southwest Emery County and Capitol Reef National Park, in the SW corner of Sevier County.
Jones Cycladenia	<i>Cycladenia humilis</i> var. <i>jonesii</i>	Known from five general areas in Utah: the Joe Hutch complex (along the Green River), the San Rafael Swell complex (west of the town of Green River), the Castle Valley complex (near Moab), Washington County complex (identified in 2024), and the Grand Staircase-Escalante National Monument. It is located on isolated habitats in central and southern Utah and Northern Utah, occurring between 4,390 to 6,000 feet in plant communities of mixed Swell scrub, juniper, or wild buckwheat-Mormon tea. It is found on gypsiferous, saline soils of Cutler, Summerville, and Chinle Formations (USFWS 2021a).	Yes. Species is known to occur in Emery County, with recorded observations within the TMA boundaries.
Last Chance townsendia	<i>Townsendia aprica</i>	Occurs over a wide elevation gradient (6,100-9,100ft), in several different vegetative communities, and on a variety of soil substrates. The majority of populations are found on soils within the Moenkopi Formation, Morrison Formation, Mancos Shale Group, and the San Rafael Group (NRCS 2011)	Yes. There are recorded observations of individuals within the TMA. All known occurrences of this species within the PFO are on the western side of the San Rafael Swell

Common Name	Scientific Name	Habitat and Range Description	Considered for Further Analysis.
Navajo sedge	<i>Carex specuicola</i>	A wetland obligate of springs, typically in alcoves associated with aeolian sandstone cliffs of varying height and slope (often vertical) at 4,200-7,600 feet (1,280- 2,300m) elevation in piñon-juniper woodland. Adapted to the specialized habitat of seepages on sandstone cliffs in an arid plateau ecoregion it rarely occurs on level terrain. The seep-spring pockets along the Navajo Sandstone Formation bedrock provide this habitat (USFWS 2023).	No. There are no known individuals within the TMA, but suitable geology for this species is found at the far SE extent of Emery County along the Green River. Greater than ten miles from the TMA.
San Rafael cactus	<i>Pediocactus despainii</i>	Occurs almost exclusively within Emery County, primarily in the Central and SW portion. It grows in a wide variety of soils, although it may favor fine textured, mildly alkaline soils rich in calcium and derived from limestone substrates of the Carmel Formation and the Sinbad member of the Moenkopi formation. It has also been found on shale barrens of the Brushy Basin member of the Morrison, Carmel, Mancos and Dakota geologic formations and in areas of primarily alluvial and colluvium soils. The species most commonly occurs on benches, hill tops, and gentle slopes, and most abundantly on sites with a south exposure at elevations of 4760-6820 ft (1450-2080 m). Much of the year cacti from both species shrink underground or back to ground surface (USFWS 2015b).	Yes. There are known individuals within TMA. Several populations have been documented in Carbon and Emery counties.
Shrubby reed-mustard	<i>Schoenocrambe suffrutescens</i>	Grows along level to moderately sloping ground surfaces in an extremely limited band of semi-barren, white-shale layers of the Evacuation Creek member of the Green River Formation in the Uinta Basin of eastern Utah. The habitat of this plant is disjunct knolls and surrounded by mixed Swell shrub and pinyon-juniper woodland (USFWS 2010).	No. Individuals are known to occur in only three areas in Uintah and Duchesne Counties. Gray Knolls Area, Pack Mountain Area, Badlands Cliff Area. No individuals have been recorded within the TMA, proper geologic substrate (Green River formation) is absent from the TMA, and potential habitat is >20 miles outside of the TMA boundaries.
Uinta Basin hookless cactus	<i>Sclerocactus wetlandicus</i>	Populations occur in Uintah Basin along the Green River and its tributaries (Titlley et. al. 2010).	No. No individuals have been recorded within the TMA, proper geologic substrate is absent from the TMA, and potential habitat is outside of the TMA boundaries, over 20 miles away.

Common Name	Scientific Name	Habitat and Range Description	Considered for Further Analysis.
Ute's Ladies' Tresses	<i>Spiranthes diluvialis</i>	Occurs along riparian edges, gravel bars, old oxbows, high flow channels, and moist to wet meadows along perennial streams. It typically occurs in stable wetland and mesic areas associated with old landscape features within historical floodplains of major rivers. It also is found in wetland areas near freshwater lakes or springs (Fertig 2005, USFWS 1995B).	Yes. Though no individuals have been recorded within the TMA, the recovery plan for this species states that the upper Colorado River Basin, in particular the Uinta Basin, is one of three general areas the plant is known from. Individuals have been found outside of the TMA boundaries within Carbon and Emery Counties.
Winkler cactus	<i>Pediocactus winkleri</i>	Endemic to fine textured soils derived from the Dakota and Morrison formation in the lower Fremont River in Sevier County and southeast Sevier Counties of south-central Utah. It is generally found at elevations between 4,900-7000 ft (1,500 - 2,130 meters m) on rocky, alkaline hill tops and benches, and on gentle slopes within barren, open sites in salt Swell shrub communities (USFWS 2015b).	Yes. There are known occurrences within the TMA. Species is almost exclusively known to occur in Sevier County, with one small population in the far SW corner of Emery County, UT.
Wright fishhook cactus	<i>Sclerocactus wrightiae</i>	Found on an array of geologic substrates at elevations ranging from 4,200-7,000 ft (1,280-2,130 m) on semi-barren sites in salt Swell shrub communities. It appears the limiting factor for Wright fishhook cactus is soil physiology. These plants are most often found typified by level to gently sloping terrain with fine- or medium-sized gravels, pebbles, or fossil oyster shells across the surface of the soil and in close proximity to fine textured, saline and/or gypsiferous strata in proximity to sand-forming geologic stratum that contributes to the substrate.	Yes. There are known occurrences within the TMP. Several populations have been documented in Emery County.

Common Name	Scientific Name	Habitat and Range Description	Considered for Further Analysis.
Graham's beardtongue	<i>Penstemon grahamii</i>	Occurs only in the Uinta Basin of northeastern Utah and adjacent western Colorado. It grows directly on the weathered exposures of oil-shale strata associated with the Parachute Creek and Evacuation Creek Members of the Green River Formation (PCT 2023).	No. This species is expected to occur only in the Uinta Basin of NE Utah and adjacent western Colorado, there are no recorded observations of this species within or around the TMA, and the species is found on geologic substrate related to the Green River Formation, which is entirely absent from the TMA. Closest population is over 20 miles away from the TMA.

**Appendix Table 0-7: Endangered and Threatened Wildlife Species**

Common Name	Scientific Name	General Habitat Description	Considered for Further Analysis.
California Condor	<i>Gymnogyps californianus</i>	Found in California, Arizona, and Southern Utah. Nesting habitat is found in steep remote mountainous or canyon terrain on rock or cliff escarpments. These areas tended to be separate from foraging areas, which are typically open grasslands and oak savannas (USFWS 2013).	No. Experimental population in Utah is only known to occur in the SW corner of the state.  Northernmost extent of their known distribution is far southern Sevier County. Additionally, the San Rafael Swell lacks the steep mountainous terrain and cliff escarpments required for the species scavenging and nesting behavior.
Mexican Spotted Owl	<i>Strix occidentalis lucida</i>	Found in the southern and eastern parts of Utah on the Colorado Plateau, where it is a rare permanent resident. Prefers mixed coniferous and hardwood forests but occupies a variety of habitats in different parts of its range, including various forest types and steep-walled rocky canyons. This last habitat being the primary habitat used in Utah (69 FR 53182 53298).	Yes. Nesting habitat and high- quality foraging habitat is limited within most of the TMA. Critical habitat for the species lies both north and south of the TMA along the Green River.

Common Name	Scientific Name	General Habitat Description	Considered for Further Analysis.
Southwestern Willow Flycatcher	<i>Empidonax traillii extimus</i>	Inhabits southwestern riparian ecosystems. Breeding in relatively dense riparian tree and shrub communities associated with rivers, swamps, and other wetlands, including lakes. Most of these habitats are classified as forested wetlands or scrub-shrub wetlands. Habitat requirements for wintering are not well known, but include brushy savanna edges, second growth, shrubby clearings and pastures, and woodlands near water (78 FR 344 534).	Yes. Though the current distribution of this species is poorly understood, the USFWS included a segment of the TMA within their current range determination for the Southwestern Willow Flycatcher.
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	Uses lowland riparian areas characterized by a dense sub-canopy or shrub layer (regenerating canopy trees, willows, or other riparian shrubs) within 300 ft of water. Over story in these habitats may be either large, gallery-forming or developing trees usually cottonwoods. In Utah, nesting habitats are primarily found in low to moderate elevations. Yellow-billed cuckoos are a migratory species (DWR 2002).	Yes. Though the current distribution of the Yellow-billed Cuckoo in Utah is poorly understood (PIF 2024), there are riparian habitats throughout the TMA that are suitable for this species (USFWS 2015a).

Common Name	Scientific Name	General Habitat Description	Considered for Further Analysis.
<p>Humpback chub</p> <p>Colorado pikeminnow</p> <p>Bonytail chub</p> <p>Razorback sucker</p>	<p><i>Gila cypha</i></p> <p><i>Ptychocheilus lucius</i></p> <p><i>Gila elegans</i></p> <p><i>Xyrauchen texanus</i></p>	<p>All species occur within the Green River and Upper Colorado River Basins. (DWR 1999, 2002, 2004) (USFWS 2011, 2018) (USDA 2008)</p>	<p>Yes. Critical habitat for the four ESA-listed species is not present and will not require further analysis. The lower portions of the Price and San Rafael River have had fish observations and PIT antennas detections. There is suitable habitat for different life stages, but no long-term occupancy.</p>
<p>Utah prairie dog</p>	<p><i>Cynomys parvidens</i></p>	<p>Utah prairie dogs prefer swale-type formations where moist herbaceous vegetation is available even during drought periods. Vegetation quality and quantity are important in helping Utah prairie dogs survive hibernation, lactation, and other high nutrient demand times. Species will avoid areas where brushy species dominate, as open habitats are important for foraging, visual surveillance to escape predators, and intraspecific interactions. Requires well-drained, deep soils for burrowing (DWR 2023).</p>	<p>No. Species is limited to the central and southwestern quarter of Utah in Beaver, Garfield, Iron, Kane, Piute, Sevier, and Wayne Counties. Historical populations were known from the foothills in the Last Chance area within Capitol Reef NP. The nearest complex mapped is complex 319 - Capital Reef National Park (on Jones Bench). The population was extirpated by 1979. In 1979 dogs were transplanted into the site. The site has been at Zero for years and not counted since 2010. even counted since at least 2010</p>

Common Name	Scientific Name	General Habitat Description	Considered for Further Analysis.
Monarch butterfly	<i>Danaus plexippus</i>	Widespread in the U.S. throughout the summer months, wintering in warmer areas in Mexico and California. It inhabits a wide variety of habitat types, requiring floral resources for food and milkweed for breeding, as its young will only eat plants from the milkweed family deriving protection from the cardiac glycosides produced by the plant (Xerces 2015).	Yes. The riparian areas throughout the TMA provide the most suitable habitat for this species within the arid desert environment.

## **Appendix E. CONSERVATION MEASURES**

The following conservation measures from the Price and Richfield RMP are applicable to the San Rafael Swell Travel Management Plan.

### **E.1. General Conservation Measures**

Use existing roads whenever possible rather than constructing new road systems (BLM 2008a, b).

Use public education and/or physical barriers (such as rocks, posts, and vegetation) to direct or preclude uses and to minimize impacts to resource values (BLM 2008a, b).

OHV use should be designated as limited to existing roads and trails where known special status species populations exist (BLM 2008a, b).

BLM will monitor and restrict, all authorized or permitted activities that may adversely impact listed species or their Designated Critical Habitats (BLM 2008b).

BLM shall implement a 300 ft. avoidance buffer between surface disturbance and plants when the need arises for Category 2 route improvements and will consult with USFWS in each instance.

Prior to surface disturbing activities associated with Category 2 route improvement actions in habitat for listed species, presence/absence surveys of potentially affected areas will be conducted in accordance with Utah Field Office Guidelines for Conduction and Reporting Botanical Inventories and Monitoring of Federally Listed, Proposed and Candidate Plants (USFWS 2011).

BLM shall continue to document new populations of listed plant species as they are encountered and verify the accuracy of modeled habitat within the TMA as funding allows.

Protect occupied ESA listed plant habitat from recreational access and use. BLM will use signage, and where necessary install physical obstructions to actively deter unauthorized off-route travel in occupied habitat.

### **E.2. Species Specific Conservation Measures**

#### **E.2.1 Mexican Spotted Owl (*Strix occidentalis lucida*)**

- Limit disturbances to and within suitable owl habitat by staying on designated routes (BLM 2008a, b)
- Road or trail maintenance, repair, and building in PACs will be undertaken during the non-breeding season (1 Sep - 28 Feb) to minimize disturbance to owls unless non-breeding is inferred or confirmed that year per the accepted survey protocol (Appendix D of Recovery Plan). Any new roads or construction, or category 2 maintenance activities occurring in PACs, would require additional analysis and consultation with USFWS .
- Management activities would be deferred from the nest/roost core during the breeding season (1 Mar - 31 Aug), except where non-breeding is confirmed or inferred that year per the accepted survey protocol (Appendix D of Recovery Plan).
- In PACs, other activities would be conducted outside of the breeding season unless pressing reasons dictate otherwise and would require USFWS concurrence. These activities include trail maintenance, road repair, removal of hazard trees, and utility-line maintenance. If the activity is conducted during the breeding season with owls present, owl locations would be known and documented during the conduct of the management action. Management actions would not be conducted in the vicinity of nesting owls,

where vicinity is defined by the intensity of disturbance.

- As time and resources allow, assess habitat suitability (ground-truth) for both nesting and foraging using accepted habitat models in conjunction with field reviews.
- Continue to survey high-quality, ground-truthed MSO habitat within the TMA following the approved survey protocol found in the Recovery Plan as time and resources allow.
- Establish and implement monitoring of PACs and high-quality, ground-truthed MSO habitat for occupancy within the TMA following the approved survey protocol found in the Recovery Plan (USFWS 2012).
- Work with USFWS on establishing new PACs if criteria of an “owl site” as defined in the Recovery Plan (USFWS 2012) is met.
- As resources allow, conduct education through signing, interpretation events, access permitting, or other information sources to inform the public of proper and legal behaviors when encountering owls.
  - For example, land managers in some areas are maintaining permanent, all-weather signs that inform the public that the area is home to a sensitive species; visitors should stay on the authorized routes and be as quiet and unobtrusive as possible.
- Managers would, on a case-specific basis, assess the presence and intensity of allowed (permitted and non-permitted) OHV use through PACs and high-quality, ground-truthed MSO habitat. The assessment should include distance, frequency, and duration of the disturbance. If recreation is determined to be a problem, limit human activities during the breeding season in areas occupied by owls (timing may vary depending on local nest chronology).
- In areas of designated critical habitat, ensure that any physical or biological factors (i.e., the primary constituent elements), as identified in determining and designating such habitat, remains intact during implementation of any BLM-authorized activity.
- 

**Occupancy surveys have been conducted in areas with a high degree of suitability during the breeding seasons of 2022-2023. No owls were detected during any of the surveys, and no other indicators of occupancy were observed. Surveying of the lesser quality habitat will be coordinated with the USFWS by BLM biologists. If future surveys detect owl occupancy, the BLM will implement appropriate conservation measures in conjunction with guidance from USFWS.E.2.2 Yellow-billed Cuckoo (*Coccyzus americanus*)**

Within the potential habitat identified in this BA, BLM has completed habitat evaluations to determine the suitability of the habitat as of April 2024. The focus was to complete the evaluation of the potential habitat located within a 1/4 from designated routes. A report of the evaluation progress will be submitted to the USFWS upon analysis of the assessment before the end of December 2024. To determine where these recommendations may be appropriate, habitat suitability assessments would continue to be implemented in accordance with Guidelines for the identification of suitable habitat for Western Yellow-Billed Cuckoo in Utah, and Protocol Breeding Season Surveys would be implemented in suitable habitats to determine occupancy. All Surveys would be conducted by permitted individual(s), and be conducted according to protocol.

All 2008 Price and Richfield RMPs Biological Opinion (BLM 2008 a, b) conservation measures specific to Yellow-billed Cuckoo were specific to surface disturbing activities, so are not relevant to this TMP.

However, in order to protect western yellow-billed cuckoo habitat and avoid negative impacts to the species, actions should be avoided or restricted that may cause stress and disturbance during nesting and rearing of their young (between June 1 to August 31). The following conservation measures would be considered.

1. Provide protected areas: - Keep campsites and heavily used day use areas away from areas to be developed or maintained for yellow-billed cuckoos. Ensure protected areas are large enough to encompass breeding, foraging, and post-fledging habitat. Discourage unauthorized off-road vehicle use in riparian habitat with fencing or physical barriers. Direct vehicles, boating, swimming, tubing, and fishing away from unoccupied and occupied suitable habitat, especially during the breeding season, where impacts are likely to negatively impact habitat or cuckoo behavior. Where potentially suitable habitat has been identified as future cuckoo habitat, these activities should be minimized to allow habitat to develop.
2. Educate users and maintenance workers: Sponsor programs and post signs that educate users about the value of riparian habitat to sensitive species. Clearly mark trails, campgrounds, and revegetation areas. Educate equestrians, boaters, and tubers about the value of overhanging branches to nesting birds. Encourage them to avoid trimming overhanging branches. Discourage campers and day users from feeding birds, to prevent increases in jays, ravens, and cowbirds.
3. Reduce negative impacts of annual or periodic maintenance: Ensure all facilities and grounds workers conduct activities compatible with protecting riparian habitat and species. Conduct annual or periodic maintenance outside the breeding season.
4. Restore habitat impacted by recreation: Re-vegetate with native species all areas of surface disturbance within riparian areas and/or adjacent uplands. Where needed, post signs that explain the importance of habitat restoration, fence habitat, and/or temporarily close trails and use areas.

### **E.2.3 San Rafael and Winkler Cactus (*Pediocactus spp.*)**

- BLM shall continue to document new populations of San Rafael and Winkler cacti as they are encountered (BLM 2008a, b).
- BLM will consider emergency OHV closure or additional restrictions to protect, conserve, and recover the species (BLM 2008a, b).
- In areas where dispersed recreational uses are identified as threats to populations of the species, BLM will consider...[concentrating] dispersed recreational use away from habitat, especially occupied habitat (BLM 2008a, b).
- As additional funding becomes available, BLM should develop a travel management plan specifically for areas of occupied and potential habitat for San Rafael and Winkler cactus<sup>5</sup> (BLM 2008a, b).

If occupancy is determined, BLM will monitor all routes including routes designated as closed within occupied habitat to ensure compliance with the designation in the TMP. If monitoring indicates that disturbance or use is occurring outside the designated OHV open routes, BLM will implement appropriate corrective actions as identified in the Implementation Plan or developed in consultation with the USFWS.

#### **E.2.4 Wright fishhook cactus (*Sclerocactus wrightiae*)**

- BLM shall continue to document new populations of Wright fishhook cactus as they are encountered (BLM 2008a, b).
- BLM will consider emergency OHV closure or additional restrictions to protect, conserve, and recover the species (BLM 2008a, b).
- In areas where dispersed recreational uses are identified as threats to populations of the species, BLM will consider...[concentrating] dispersed recreational use away from habitat, especially occupied habitat (BLM 2008a, b).

If monitoring indicates that disturbance or use is occurring outside the designated OHV open routes within occupied habitat, BLM will implement appropriate corrective actions as identified in the Implementation Plan or developed in consultation with the USFWS.

#### **E.2.5 Jones cycladenia (*Cycladenia humilis* var. *jonesii*)**

- BLM shall continue to document new populations of Jones cycladenia (*Cycladenia humilis* var. *jonesii*) as they are encountered (BLM 2008a).
- BLM will consider emergency OHV closure or additional restrictions to protect, conserve, and recover the species (BLM 2008a).
- In areas where dispersed recreational uses are identified as threats to populations of the species, BLM will consider the development of new recreational facilities/opportunities that concentrate dispersed recreational use away from habitat, especially occupied habitat (BLM 2008a).

The BLM has, in coordination with USFWS, been monitoring known populations of the species for multiple decades. Monitoring of these populations will continue, and records of monitoring will be submitted to USFWS annually.

The 2008 Richfield RMP Biological Opinion (BLM 2008a, b) did not contain conservation measures specific to Jones cycladenia.

#### **E.2.5 Barneby Reed-Mustard (*Schoenocrambe barnebyi*)**

- BLM shall continue to document new populations of each species as they are encountered (BLM 2008a, b).

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<sup>5</sup> The San Rafael Swell Travel Management Plan fulfills this conservation measure for the portions of the habitat overlapping the Travel Management Area.

- BLM will consider emergency OHV closure or additional restrictions to protect, conserve, and recover the species (BLM 2008a, b).
- In areas where dispersed recreational uses are identified as threats to populations of the species, BLM will consider the development of new recreational facilities/opportunities that concentrate dispersed recreational use away from habitat, especially occupied habitat (BLM 2008a, b).

The BLM has, in coordination with USFWS, been monitoring known populations of the species within the TMA for multiple decades. Monitoring of these populations will continue, and records of monitoring will be submitted to USFWS at an agreed upon interval.)

In compliance with the Richfield RMP Biological Opinion (BLM 2008b) conservation measure 2, surveys were conducted by a BLM botanist during 2023 within potentially suitable habitat. None of the habitat surveyed was found to be suitable.

### **E.2.5 Ute ladies' tresses (*Spiranthes diluvialis*)**

- BLM shall continue to document new populations of Ute ladies'-tresses as they are encountered
- BLM will consider emergency OHV closure or additional restrictions to protect, conserve, and recover the species.
- In areas where dispersed recreational uses are identified as threats to populations of the species, BLM will consider the development of new recreational facilities/opportunities that concentrate dispersed recreational use away from habitat, especially occupied habitat.

The BLM has, in coordination with USFWS, been monitoring known populations of the species outside the TMA. Monitoring of these populations will continue.

The 2008 Price and Richfield RMPs Biological Opinion (BLM 2008a) did not contain any conservation measures specific to Ute Ladies'-tresses.

### **E.2.6 Colorado River Endangered Fish Bonytail (*Gila elegans*), Colorado Pikeminnow (*Ptychocheilus lucius*), Humpback Chub (*Gila cypha*), and Razorback Sucker (*Xyrauchen texanus*)**

- The BLM shall notify the USFWS immediately of any unforeseen impacts detected during project implementation. Any implementation action that may be contributing to the introduction of toxic materials or other causes of fish mortality must be immediately stopped until the situation is remedied. If investigative monitoring efforts demonstrate that the source of fish mortality is not related to the authorized activity, the action may proceed only after notification of USFWS authorities (BLM 2008a, b).
- Unoccupied, suitable habitat areas should be protected in order to preserve them for future management actions associated with the recovery of the Endangered Colorado River Fish, as well as approved reintroduction, or relocation efforts.

- BLM will avoid impacts where feasible, to habitats considered most representative of prime suitable habitat for these species.
  - Surface disturbing activities will be restricted within  $\frac{1}{4}$  mile of the channel centerline of the Green, Price, and San Rafael Rivers
  - Surface disturbing activities proposed to occur within floodplains or riparian areas will be avoided unless there is no practical alternative or the development would enhance riparian/aquatic values. If activities must occur in these areas, construction will be designed to include mitigation efforts to maintain, restore, and/or improve riparian and aquatic conditions. If conditions could not be maintained, offsite mitigation strategies should be considered.
- BLM will ensure project proponents are aware that designs must avoid as much direct disturbance to current populations and known habitats as is feasible. Designs should include:
  - a. protections against toxic spills into rivers and floodplains;
  - b. plans for sedimentation reduction;
  - c. minimization of riparian vegetation loss or degradation;
  - d. pre-activity flagging of critical areas for avoidance;
  - e. design of stream-crossings for adequate passage of fish; and
  - f. measures to avoid or minimize impacts on water quality at the 25-year frequency runoff
- Prior to surface disturbing activities, specific principles will be considered to control erosion. These principles include:
  - a. BLM will ensure project proponents are aware that designs must avoid as much direct disturbance
  - b. Prior to surface disturbing activities, specific principles will be considered to control erosion. These principles include:
  - c. Conduct long-range transportation and access planning for large area to ensure that roads will serve future needs. This will result in less total disturbance.
  - d. Avoid, where possible, surface disturbance in areas with high erosion hazards.
  - e. Design and locate roads to minimize roadway drainage areas and to avoid modifying the natural drainage areas of small streams.
- Design stream-crossings for adequate passage of fish (if present), minimum impact on water quality, and at a minimum, a 25-year frequency runoff.
- 

### **E.2.7 Last Chance Townsendia (*Townsendia aprica*)**

- BLM shall continue to document new populations of each species as they are encountered (BLM 2008a, b).
- BLM will consider emergency OHV closure or additional restrictions to protect, conserve, and recover the species (BLM 2008a, b).
- In areas where dispersed recreational uses are identified as threats to populations of the species, BLM will consider the development of new recreational facilities/opportunities that concentrate dispersed recreational use away from habitat, especially occupied habitat

(BLM 2008a, b).

### **E.2.8 Southwestern Willow Flycatcher (*Empidonax traillii extimus*)**

- BLM will monitor and restrict, when and where necessary, authorized, or casual use activities that may adversely affect the Southwestern willow flycatcher, including but not limited to, recreation...activities (BLM 2008a, b).
- The BLM will continue to address illegal and unauthorized OHV use and activity upon BLM administered lands. In order to protect, conserve, and recover the Southwestern willow flycatcher in areas of heavy unauthorized use, temporary closures, or use restrictions beyond those which are already in place, may be imposed. As funding allows, BLM should complete a comprehensive assessment of all OHV use areas that interface with Southwestern willow flycatcher populations. Comparison of Southwestern willow flycatcher populations and OHV use areas using GIS would give BLM personnel another tool to manage and/or minimize impacts (BLM 2008a, b).
- Limit disturbances to within suitable habitat by staying on designated routes (BLM 2008a, b).

### **E.2.9 Monarch Butterfly (*Danaus plexippus*)**

The 2008 Price and Richfield RMPs Biological Opinions (BLM 2008 a, b) did not contain conservation measures specific to monarch butterfly.

### **E.2.10 References**

USFWS 2008a. Fish and Wildlife Service Biological Opinion for BLM Resource Management Plan, Price Field Office. <https://eplanning.blm.gov/eplanning-ui/project/67041/570>

USFWS 2008b. Fish and Wildlife Service Biological Opinion for BLM Resource Management Plan, Richfield Field Office. <https://eplanning.blm.gov/eplanning-ui/project/68293/570>

## **Appendix F. TRAVEL NETWORK DEVELOPMENT METHODOLOGY**

The BLM developed the Proposed Action by compiling an inventory of existing routes within the TMA; evaluating the routes in accordance with BLM policy, the 2017 Settlement Agreement, and the Dingell Act; and gathering and incorporating feedback from the public and cooperating agencies.

### **F.1. Route Inventory**

Starting in 2011, the BLM created an original route inventory within the TMA using a combination of previous travel plans, aerial photography, BLM and County GIS data, maps, and ground-truthing (i.e., driving routes on the ground). In 2019, the BLM refined the original route inventory in accordance with BLM Manual 1626 Section 1.4.C.6 by removing linear disturbances that are not travel related (e.g., game trails, cattle trails, fence-lines, reclaimed historic routes, reclaimed routes on old maps or aerial imagery, and seismic exploration scars), and in accordance with BLM Manual 1640 Section 1.6.B.2.b and c by removing permanent and temporary routes in the wilderness areas designated by the Dingell Act. This evaluation route inventory contained approximately 2,536 miles of routes.

In 2023, the BLM further refined the evaluation route inventory by removing 375 miles of routes the IDT determined had no public purpose or need. These removed routes are no longer capable of use by OHVs because they have substantially reclaimed, were wash bottoms that do not receive vehicle traffic, route realignments no longer in use, and short dead-end spurs with disproportionate resource concerns. The remaining 2,161 miles of routes is called hereafter the total evaluated network. The total evaluated network is the basis for the proposed network alternatives analyzed in this EA. It includes routes managed as closed under the 2008 RMP which have received continuous public OHV use over time even when such use was not authorized so that substantial groundwork is not needed if they were to be designated OHV-Open or OHV-Limited. Therefore the 2,161 miles of routes in this inventory, if designated OHV-Open or OHV-Limited, will not result in new surface disturbances. The preliminary alternatives route inventory is synonymous with the “total evaluated network”.

### **F.2. Route Evaluation and Network Alternative Development**

Beginning in 2019, the BLM interdisciplinary team (IDT) and cooperating agencies (the evaluators) evaluated the approximately 2,536 miles of routes in the evaluation route inventory. Week-long route-evaluation meetings were held every month for nearly two years. During those meetings, the evaluators reviewed each route using agency GIS data (including resource survey data), personal knowledge, and, when necessary, data from field checks. For each route, the evaluators documented the following: characteristics (e.g., maintenance frequency, class, use level, vehicle type accommodation), condition (e.g., braiding, washed out), connectivity (e.g., if the route on adjacent land ownerships are open to public use), public purpose and need (e.g., destinations or experiences provided by the route, whether the other routes provide access to the same destinations or experiences), known user conflicts, official and/or authorized uses (e.g., facility access, permit access, etc.), recreational attractions (e.g., campsites, overlooks), resource

values (e.g., within or near ESA-listed species or habitat), and necessity of the route within the network alternative considering that alternative's theme (resource protection emphasis, multiple use emphasis, and access emphasis). In addition to cataloguing the resources relating to each route and route attributes, the reports include the proposed designation for the subject route under each alternative travel network. When identifying proposed designations, the evaluators weighed the purpose and need for each route against the resource conflicts, along with the route's role in the overall travel network, to determine in which, if any, of the action alternatives B-D the route would be designated for OHV use. Additionally, evaluators considered and discussed route locations and characteristics and explored opportunities and techniques for avoiding or mitigating route designation effects to minimize damage, disruption, and conflict with various resources and among users. The evaluators proposed routes as open, limited, or closed. In some cases, the evaluators identified management actions associated with the proposed route designations. Those management actions BLM has committed to are documented in the Implementation Guide (Appendix G). The evaluators also considered network connectivity and alternative goals to create the proposed range of alternatives. In 2023, to create the route network alternatives, the BLM IDT spent nine weeks updating the route evaluation data in the route reports to incorporate public scoping comments, as appropriate; data gathered during additional site visits; updated land with wilderness characteristics (LWC) inventories; and various survey findings (cultural resources, ESA-listed plant, and Mexican spotted owl). During this time, the BLM also delineated 22 Route Network Geographic Areas (see the EA's Appendix E). These areas were delineated based on natural separating features such as topography, major roads such as Interstate 70, and the already established TMP boundary. In addition to the separating features, the BLM also considered the diverse recreational experiences and opportunities that were present to help further separate the route network geographic areas. The BLM took then revised the proposed range of alternatives considering the new information and the network connectivity in these smaller geographic areas. The BLM also documented how route minimization is being accomplished by opening and closing routes within each area. The changes resulted in the BLM's preliminary route network alternatives. In February 2024, the BLM released the preliminary route network alternatives to the cooperating agencies and then the public so they could provide feedback. In April 2024 the BLM reviewed over 500 comments received and made changes as appropriate. Most of the comments expressed route designation preferences that were already represented in at least one alternative and therefore did not result in any changes. The BLM received comments on approximately 20 routes that proposed OHV-Closed in every action alternative. The BLM reviewed and considered those comments carefully and either changed the proposed designation in Alternative D to open for OHV use or documented in the project record reasoning for not making any change. Where comments asserted that BLM needed to adjust route-related data in the route reports, BLM did so, as appropriate.

## **APPENDIX G. IMPLEMENTATION GUIDE**



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Richfield Field Office  
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## LIST OF ACRONYMS

BLM	Bureau of Land Management
CFR	Code of Federal Regulations
GIS	Geographic information system
GPS	Global positioning system
GTLF	Ground Transportation Linear Features
HPTP	Historic Properties Treatment Plan
MUTCD	Manual on Uniform Traffic Control Devices
OHV	Off-highway vehicle
PFO	Price Field Office
RFO	Richfield Field Office
RMP	Resource Management Plan
ROW	Right-of-way
TMA	Travel Management Area
TMP	Travel Management Plan

## **G.1. Introduction**

This document, the TMP Implementation Guide (Guide), discusses the steps to be taken after the BLM adopts the new TMP. These include:

- Conduct education and outreach.
- Install signs.
- Maintain routes as appropriate.
- Enforce the TMP.
- Monitor effects.
- Reclaim routes as appropriate.

Implementation timing is subject to available staff and funding. Grants, new appropriations, partnerships, and volunteers may be used to supplement budgets and workforce when possible.

## **G.2. Education and Outreach**

The objectives of education and outreach for the TMP are to attain voluntary public compliance with the designations. The BLM will develop education and outreach materials specific to the TMP. Potential methods of education and outreach include:

- News releases and social media posts
- Brochures and guides
- BLM Maps (hard copy and georeferenced)
- Commercial maps (e.g., National Geographic and Latitude 40)
- Signs (see 1.3)
- Visitor center displays
- In-person public presentations
- Website/electronic media distribution (e.g., ArcGIS Online map server, Google Earth keyhole markup language (KML) and keyhole markup language zipped (KMZ) files, and universal global positioning system (GPS).
- Partnerships with a broad range of local, county, state, tribal, and federal agencies, as well as service-oriented volunteers, schools, and non-governmental organizations (e.g., Tread Lightly! Inc. and Leave No Trace education and outreach resources).

Policy for education and outreach on BLM lands can be found in the BLM's 1996 Volunteer Manual (BLM 1996), Travel and Transportation Management Handbook (BLM 2012a), Sign Handbook (BLM 2016a), and Sign Manual (BLM 2004c).

## **G.3. Sign Installation**

The objectives of sign installation are to make the route network obvious, to promote the health and safety of visitors to public lands, meet visitor needs for information and direction, and reduce user or management issues. As determined necessary based on professional judgement, the BLM will place TMP signs at route intersections, periodically along the route, at route ends, at route closures, and in

areas of resource or user issues. Sign categories that may be installed include: identification, guide (navigation), informational, traffic control devices, regulatory/warning/safety, and miscellaneous (e.g., temporary, special event, etc.) (BLM 2016a) To limit the number of markers at an intersection, two routes may be identified on one post using arrow symbols and using both sides of the double-sided fiberglass posts. Signs will be updated, repaired, or replaced as soon as possible; signs that are found to be unnecessary will be removed. This TMP would authorize the installation of signs including signposts in previously disturbed areas and adjacent to the route. The sign types may include directional, portal, and informational. The BLM will use the minimum necessary sign type to achieve route clarity. Installation of kiosks are not authorized in this TMP. Installation of signs is categorically excluded from NEPA (516 Departmental Manual 11.9(G)(2)). The BLM will prioritize placing signs:

- In areas with public health and safety concern
- At entrances to and boundaries of areas of national significance (e.g., national monuments, designated wilderness areas, etc.)
- At areas of high recreational use or where it may enhance visitor experience and convenience (e.g., recreation sites, trailheads, backcountry byways, etc.)
- Where route use limitations exist (e.g., limited to a vehicle type, route closed to public motorized use, etc.)
- Where users may become confused about the direction, terminus, designation, or alignment of the route.

Where resource conflicts may occur (e.g. routes through ESA-listed species habitats). Route specific signing will occur as shown in Appendix if the routes are designated open.

**Appendix Table 0-1:: Route Specific Signing**

Route number	Signing description	Responsible Party
SS2026	Interpretive	BLM
SS2825	Regulatory; Interpretive	BLM
SS4065	Interpretive	BLM

Policy for signs on BLM lands (installation, ordering, etc.) can be found in the BLM's 2016 National Sign Handbook (BLM 2016a) and the Federal Highway Administration's Manual on Uniform Traffic Control Devices, which is also known as the MUTCD (FHWA 2019). Policies for sign design, use, and location are also included in the BLM's Roads Manual (BLM 2015a), Primitive Roads Manual (BLM 2012g), Sign Manual (BLM 2004c), and Travel and Transportation Management Handbook (BLM 2012a).

#### **G.4. Maintenance**

The objective of maintenance under the TMP is to ensure safety and navigability for designated routes without changing the class, character, function, or recreational experience of the route. The

BLM will maintain the routes<sup>6</sup> at an intensity level appropriate for the route. For example, the routes receiving the heaviest use are the routes subject to level 5 maintenance intensity (see Table G-1.4.1).

**Appendix Table 0-2: Maintenance Intensities Under the Chosen Alternative**

Maintenance Intensity	Descriptions of Routes Under Each Intensity Level
Level 0	Existing routes that would no longer be maintained or declared as routes. Routes identified for removal from the Transportation System entirely.
Level 1	Routes where minimal (low-intensity) maintenance is required to protect or access adjacent lands and resource values. These roads may be impassable for extended periods of time.
Level 3	Routes requiring moderate maintenance due to low volume use (for example, seasonally or year-round for commercial, recreational, or administrative access). Maintenance intensities may not provide year-round access but are intended to generally provide resources appropriate to keep the route in use for the majority of the year.
Level 5	Routes for high (maximum) maintenance because of year-round needs, high-volume traffic, or significant use. May also include routes identified through management objectives as requiring high intensities of maintenance or to be maintained open year-round.

Policy for road maintenance on BLM lands can be found in the BLM's Manual MS-9113 – Roads (BLM 2015a), Handbook H-9113-2 – Roads Inventory and Condition Assessment Guidance & Instructions (BLM 2015b), and Handbook H-9115-2 – Primitive Roads Inventory and Condition Assessment Guidance & Instructions (BLM 2012c).

Route specific maintenance will occur as shown in Table G-1.4.2 if the routes are designated open.

**Appendix Table 0-3: Route Specific Maintenance**

Route number	Maintenance description	Timeframe	Responsible Party
SS2176	Fence Maintenance	One time within 3 years	BLM
SS2347	Remove blockage	One time within 3 years	BLM

Policy for road maintenance on BLM lands can be found in the BLM's Manual MS-9113 – Roads (BLM 2015a), Handbook H-9113-2 – Roads Inventory and Condition Assessment Guidance & Instructions (BLM 2015b), and Handbook H-9115-2 – Primitive Roads Inventory and Condition Assessment Guidance & Instructions (BLM 2012c).

## **G.5. Enforcement**

### **Overview**

The objective of enforcement under the TMP is to provide user safety and respond to use issues (e.g., user conflicts, resource concerns, etc.). The BLM will conduct routine, highly visible patrols by BLM

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<sup>6</sup> Some routes in the TMP are subject to maintenance by authorized users in accordance with their authorizations (e.g., county roads, mine roads, and utility maintenance roads). They also must maintain the route at an intensity level consistent with their authorization.

staff to maintain an effective authoritative presence in the field. Personnel from partner agencies, such as the Utah Division of Wildlife Resources (UDWR), Emery and Sevier County Sheriff's Departments, and the Utah Highway Patrol may also supplement enforcement operations. The BLM will prioritize patrols:

- In areas with public health and safety concern
- At entrances to and boundaries of areas of national significance (e.g., national monuments, designated wilderness areas, etc.)
- At areas or times of high recreational use or where it may enhance visitor experience and convenience (e.g., recreation sites, trailheads, backcountry byways, etc.)
- Where route use limitations exist (e.g., limited to a vehicle type, route closed to public motorized use, etc.)
- Where users may become confused about the direction, terminus, designation, or alignment of the route.
- Where resource conflicts may occur (e.g. routes through ESA-listed species habitats).
- Routes identified for monitoring (see Table G.1.6.1).

Regulations for enforcement are described in 43 CFR Subpart 8340 (GPO 2016), 43 CFR Subpart 8360 (GPO 2009a), and 43 CFR § 9268.3 (GPO 2001). They may be supplemented as deemed necessary by Supplementary Rules, which may be established pursuant 43 CFR § 8360 under a separate action to implement use restrictions identified in RMP decisions. Policy for enforcement is found in Travel and Transportation Management Handbook (BLM 2012a).

## **G.6. Monitoring**

The objective of monitoring is to ensure that desired outcomes and conditions are achieved, and to document how the decision affects resources over time. The BLM will conduct ad-hoc and strategic monitoring using staff, volunteers, users, and partners as time and funding permit. Ad-hoc monitoring occurs when BLM staff or the public reporting any observed issues to the appropriate resource staff (Field Manager, Assistant Field Manager, Outdoor Recreation Planner, Field Technician, etc.). Strategic monitoring occurs when BLM-staff or partners checks implementation of requirements from the TMP (for example, from the San Rafael Swell Baseline Monitoring Report, Biological Opinion, HPTP, or specific route evaluation reports). When monitoring identifies issues, the BLM will address the issues identified at that time. The monitoring program will be used to determine:

- If resource protection and resource use objectives are being met.
- If the plan addresses visitor satisfaction, use patterns, use volumes, and other needs.

The condition of the routes and compliance with route designations and use restrictions. TMP monitoring priorities include:

- Areas with public health and safety concern.
- Entrances to and boundaries of areas of national significance (e.g., national monuments, designated wilderness areas, etc.)
- Areas or times of high recreational use or where it may enhance visitor experience and convenience (e.g., recreation sites, trailheads, backcountry byways, etc.)

- Where route use limitations exist (e.g., limited to a vehicle type, route closed to public motorized use, etc.)
- Where resource conflicts may occur (e.g. routes through ESA-listed species habitats).
- OHV-Open or OHV-Limited routes that include “with Management” requirements
- Closed and reclaimed routes.

TMP long term monitoring protocol includes:

- Annual monitoring by BLM staff for 5 years.
- Preferred monitoring time of early summer after peak use in the Swell.
- Monitoring the routes with required monitoring (see Table G.1.6.1) plus a minimum of 10 additional routes a year comprising at least one primitive route, one UTV route, and one class 5 route.
- Data collection similar to the baseline monitoring effort, to be housed at the Price BLM office.

**Appendix Table 0-4: Route Specific Monitoring**

Route number	Monitoring description	Time length	Responsible Party
SS1063	Route Proliferation	5 years	BLM
SS1069	Route Proliferation	5 years	BLM
SS1072	Adverse effects to wetland and spring system	5 years	BLM
SS1076	Route Proliferation; fence maintenance	5 years	BLM
SS1077	Route Proliferation	5 years	BLM
SS2026	Adverse effects to resources	5 years	BLM
SS2176	Adverse effects to resources; Fence maintenance	5 years	BLM
SS3085	Soil Erosion	5 years	BLM
SS3278	Adverse effects to resources	5 years	BLM
SS4065	Adverse effects to resources	5 years	BLM

Regulations for TMP Monitoring is contained in 43 CFR § 8342.3 (GPO 2016). Policy for Travel Management Monitoring is contained in BLM’s Travel and Transportation Management Manual (BLM 2016b), and Appendix R-2 of the 2008 Price RMP and pages 120 and 127 in the 2008 Richfield RMP (see Table G.1.6.2

**Appendix Table 0-5: 2008 RMP Travel Management-Related Monitoring Methodologies**

2008 Price RMP	
OHV	<p>Travel management and OHV use monitoring within the planning area will focus on compliance with specific route and area designations and restrictions, with primary emphasis on those routes or areas causing the highest levels of user conflicts or adverse impacts to resources. Various methods of monitoring may be employed including: aerial monitoring, ground patrol, “citizen watch,” and appropriate methods of remote surveillance such as traffic counters, etc.</p> <p>Evaluate trail impacts on resources through visual inspections, photo at problem areas (erosion, users short cutting, etc). Use trail traffic counters where appropriate to determine visitor use levels. Involve volunteers to assist in trail monitoring where appropriate and feasible.</p> <p>Periodically check that routes meet the objectives set forth in the RMP to ensure resource conditions such as water quality, wildlife/fish habitat, or recreational values are maintained and available to communities and users, and ensure resource values are not compromised. Route or area closures will be regularly monitored for compliance. Cooperation with other agencies in travel management and OHV use monitoring will continue to be emphasized, and improved wherever possible.</p>
Transportation	<p>Periodically check that roads meet the objectives set forth in the RMP to ensure resource conditions are maintained and available to communities and users, and ensure resource values are not compromised. Update the Transportation Plan as monitoring needs are found.</p>
2008 Richfield RMP	
Travel Management	<p>Travel management and OHV use monitoring within the planning area will focus on compliance with specific route and area designations and restrictions. Staff will identify specific actions, including timeframes, methods and anticipated resources needs following the established protocols for Comprehensive Travel and Transportation Management. Various methods of monitoring may be employed including: ground patrol, traffic counters, aerial monitoring, photos of problem areas (erosion, users short cutting, etc.) and “citizen watch”. Involve volunteers to assist in monitoring where appropriate and feasible. Cooperation with other agencies in travel management and OHV use monitoring will continue to be emphasized, and improved wherever possible. Primary emphasis will be on designated routes (ways) within WSAs and BLM natural areas, and those routes or areas having the highest potential for user conflicts or adverse impacts to resources. Monitoring will assess whether routes meet the objectives set forth in the RMP and to ensure resource conditions such as water quality, wildlife or recreational values are maintained, and resource values are not compromised. Route or area closures will be regularly monitored for compliance. The monitoring data will be used to assess the effectiveness of the RMP and the associated implementation actions. Modifications to the RMP and route designations may be considered if monitoring indicates that goals and objectives are not being met. Monitoring actions will be reported through the BLM annual workload measure accomplishments and in the Annual Program Summary and Planning Update.</p>
Recreation	<p>Monitoring of recreation resources will continue to occur throughout the planning area. Levels and intensities of monitoring will vary depending on the sensitivity of the resource or area and the scope of the proposed management activities. Monitoring baseline data will be used to develop Limits of Change determinations, manage visitor use, plans and projects to reduce visitor impacts, and to assess whether the desired outcomes of the RMP are being met. Priority will be placed on developed recreation sites and Special Recreation Management Areas (SRMAs) to develop baseline data to be used in SRMA Activity Plans. Periodic patrols of popular undeveloped use areas will be conducted where recreation use is concentrated. Special Recreation Permits will be monitored for compliance with terms, conditions and special stipulations and post-use requirements. Condition assessments of developed recreation sites will be conducted to determine maintenance requirements and ensure public health and safety. Monitoring will emphasize signing, visitor use, identification of areas where there may be</p>

problems with compliance with rules and regulations resulting in user conflicts or resource damage, and determining current impacts, levels and patterns of recreational use. Any appropriate methodology will be used including visitor surveys, traffic counters, developed recreation site visitor data, documentation of user conflicts and photo documentation of the changes in resource conditions over time. Visitor use will be reported in RMIS. Monitoring actions will be reported through the BLM annual workload measure accomplishments and in the Annual Program Summary and Planning Update.

## **G.7. Route Reclamation**

The objective of reclamation is to discontinue use of a route and allow it to return to a natural state. An OHV-Closed designation does not automatically mean that a route will be actively reclaimed because, for example, the route may still be needed by authorized users or for authorized uses. The TMP does not identify any route-specific reclamation strategies. Route-specific reclamation strategies route will be identified in the future by BLM resource specialists consistent with BLM policies and may require further site specific NEPA analysis, as appropriate. When reclaiming routes, the BLM will use the minimum necessary reclamation technique to achieve reclamation. BLM will inform Emery and/or Sevier Counties before any County-classified roads are reclaimed.

Reclamation techniques include:

- Natural reclamation, where the route would revegetation naturally. This level of reclamation may also include installation of “route closed” or other information signs. In some cases, mechanical tools such as shovels, rakes, and other hand tools may be employed to obliterate tracks, embankments, ruts, water bars and ditches.
- Disguising Routes with Natural Materials, sometimes referred to as “vertical mulching”, where the BLM would place rocks, dead wood and plants in light-of-sight along the route in a natural-looking arrangement). In some cases, mechanical tools such as shovels, rakes, and other hand tools may be employed to obliterate tracks, embankments, ruts, water bars and ditches.
- Barrier Installation where the BLM would install natural or human-made barriers such as large boulders or fences with gates to physically prevent unauthorized use. Where possible and practical, these measures may be removed when routes are reclaimed or fully disguised.
- Ripping and Reseeding Routes, where the BLM mechanically breaks up the route and reseeds it using heavy equipment (e.g., excavators, bulldozers, or harrow or seed drills. Herbicides may also be used for revegetation. Reseeding within wilderness should use predominately native seed mixes. New surface disturbance outside the route footprint is not authorized through the TMP.

Reclamation efforts priorities include:

- Routes that pose a public safety hazard
- Routes leading into a designated wilderness area or a BLM natural area
- Routes causing resource damage, or routes in areas with a high risk for potential impacts to resources such as ESA-listed species or their habitat, or any other resources requiring special management or protection.

Policy for reclamation is contained in BLM Utah’s [Green River District reclamation guidelines](#).

## **APPENDIX M BIOLOGICAL OPINION**



United States Department of the Interior

FISH AND WILDLIFE SERVICE  
2369 West Orton Circle, #50  
West Valley City, Utah 84119



In Reply Refer to:  
FWS/R6/FF06E23000/  
2024-0136623

Memorandum

To: Field Manager, Price Field Office, Bureau of Land Management, Price, Utah

From: Utah Field Supervisor, Ecological Services, U.S. Fish and Wildlife Service, West Valley City, Utah **GEORGE WEEKLEY** Digitally signed by GEORGE WEEKLEY  
Date: 2024.12.16 07:37:16 -07'00'

Subject: Conclusion of Formal Section 7 Consultation and Biological Opinion for the San Rafael Swell Travel Management Plan

In accordance with section 7 of the Endangered Species Act (hereafter, the Act) of 1973, as amended (16 U.S.C. 1531 et seq.), and the Interagency Cooperation Regulations (50 CFR 402), this transmits our final biological opinion (BO) on the Bureau of Land Management's (BLM) proposed San Rafael Swell Travel Management Plan (hereafter, Project). Our BO evaluates the effects of the Project to Colorado pikeminnow (*Ptychocheilus lucius*), Mexican spotted owl (*Strix occidentalis lucida*), Barneby reed mustard (*Schoenocrambe barnebyi*), Jones cycladenia (*Cycladenia humilis* var. *jonesii*), Last Chance townsendia (*Townsendia aprica*), San Rafael cactus (*Pediocactus despainii*), Ute ladies'-tresses (*Spiranthes diluvialis*), Winkler cactus (*Pediocactus winkleri*), and Wright fishhook cactus (*Sclerocactus wrightiae*).

You determined that the Project may affect; and is likely to adversely affect, the Colorado pikeminnow (*Ptychocheilus lucius*), Mexican spotted owl (*Strix occidentalis lucida*), Barneby reed mustard (*Schoenocrambe barnebyi*), Jones cycladenia (*Cycladenia humilis* var. *jonesii*), Last Chance townsendia (*Townsendia aprica*), San Rafael cactus (*Pediocactus despainii*), Ute ladies'-tresses (*Spiranthes diluvialis*), Winkler cactus (*Pediocactus winkleri*), and Wright fishhook cactus (*Sclerocactus wrightiae*). You also determined that this project may affect, but is not likely to adversely affect the bonytail chub (*Gila elegans*), humpback chub (*Gila cypha*), razorback sucker (*Xyrauchen texanus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and western yellow-billed cuckoo (*Coccyzus americanus*) or any of their critical habitat. Finally, you determined that it is not likely to adversely affect designated critical habitat for the Colorado pikeminnow.

We concur with your not likely to adversely affect determinations for the bonytail chub, the humpback chub, and the razorback sucker. These three Colorado River fishes occupy the San Rafael River seasonally and in low abundance. The Project contains only one route along the San Rafael River that crosses these fish species' occupied habitat. Therefore, the potential for impacts to these fish species by motorized vehicles is unlikely and discountable. Additionally, the habitat at the stream crossing is not conducive for the fish to remain at the crossing and we expect the fish would only transit through the crossing to reach more suitable habitat. We also concur with your not likely to adversely affect determination for the Colorado River fishes' critical habitat, as no critical habitat are present within the travel management area (TMA).

While suitable habitat is present for different life stages, there is no capacity for long-term occupation due to seasonal dewatering of the Price and San Rafael Rivers.

We also concur with your not likely to adversely affect determination for the southwestern willow flycatcher and yellow-billed cuckoo. The action area is north of the expected breeding range of the southwestern willow flycatcher (USFWS 2002). The Project also occurs outside of designated critical habitat for the flycatcher, as well as recovery and management areas for the species (USFWS 2002). The 1,153 acres (ac) of potentially suitable habitat for yellow-billed cuckoos within the project area are isolated patches, and the habitat quality is marginal to poor. The area might serve as a migratory pathway but does not support nesting or breeding habitat for the yellow-billed cuckoo.

Your request for formal consultation for these eight species was received on August 16, 2024. Our BO is based on information provided in your August 2024 Biological Assessment (BA) and subsequent email, phone, and letter correspondence (see Consultation History, below). A complete administrative record of this consultation is on file at the U.S. Fish and Wildlife Service (USFWS) Utah Field Office.

Finally, the BLM determined that the Project is not likely to jeopardize the continued existence of monarch butterfly (*Danaus plexippus*). The regulations implementing section 7 of the Act do not require the Service to review or concur with not likely to jeopardize the continued existence of determinations if an analysis is not included in a BA. However, we appreciate being informed of your determination for this species.

## CONSULTATION HISTORY

- **October 2, 2020.** We were first contacted by your office to discuss the upcoming Project and species list.
- **January 26, 2021.** We received your request to review the Ecological Assessment for the Project and evaluate the proposed routes for potential and occupied listed species habitat.
- **May 26, 2021.** We met with your office discuss the species list and plan San Rafael cactus surveys in advance of the Project.
- **August 16, 2024.** We received the BA and request for consultation and requested additional information and shapefiles.

- **October 2, 2024.** We provided comments and requested changes to the BA for several determinations and additional conservation measures and met with your office to discuss those changes.
- **October 11, 2024.** We received an updated BA with partial changes.
- **October 17, 2024.** We requested additional changes to the conservation measures in the BA and requested that ones that had been previously agreed to but excluded be added.
- **November 8, 2024.** We received a final version of the BA from your office with all agreed changes included.

## 1 PROPOSED ACTION

The BLM Price Field Office (PFO) is proposing to designate an off-highway vehicle (OHV) travel route network on an estimated 1.15 million ac of BLM lands in the San Rafael Swell Travel Management Area (TMA). Of the 2,161 miles (mi) of routes inventoried and evaluated within the TMA, 2,108 miles (mi) of routes are proposed as either OHV-Open<sup>1</sup> or OHV- Limited<sup>2</sup> designations, and 53 mi are proposed as OHV-Closed<sup>3</sup> (Table 1).

For additional information on how the 2,161 mi were inventoried and evaluated and how the travel route network<sup>4</sup> designations were developed, see Appendix F of the BLM's San Rafael Swell (SRS) TMA Environmental Impact Statement (EIS) (BLM 2024). The chosen travel network route designations will replace the route designations assigned in the TMA by the 2003 San Rafael Route Designation Plan and the 2008 PFO Record of Decision and Approved Resource Management Plan (BLM 2008a). Any subsequent route designation(s) will be completed in compliance with NEPA and other legal requirements, including the Endangered Species Act (ESA).

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<sup>1</sup> OHV-Open is defined as a route where OHV travel is permitted. There are no special restrictions or no compelling resource protection needs, user conflicts, or public safety issues to warrant limiting the timing or season of use, the type of OHV, or the type of OHV user.

<sup>2</sup> OHV-Limited is defined as a route where OHV travel on routes, roads, trails, or other vehicle ways is subject to restrictions to meet specific resource management objectives. Examples of restrictions include numbers or types of vehicles; time or season of use; permitted or licensed use only; or other restrictions necessary to meet resource management objectives, including certain competitive or intensive uses that have special limitations.

<sup>3</sup> OHV-Closed is defined as a route where OHV travel is prohibited. Access by means other than OHVs, such as by motorized vehicles that fall outside of the definition of an OHV or by mechanized or non-mechanized means, is permitted. The BLM designates routes as closed to OHVs if necessary to protect resources, promote visitor safety, reduce use conflicts, or meet a specific resource goal or objective.

<sup>4</sup> A travel route network is defined as the routes occurring on public lands or within easements granted to the BLM that are recognized, designated, decided upon, or otherwise authorized for use through travel and transportation management decisions (BLM, 2016).

**Table 1. Miles of OHV Open, Limited, and Closed designations within the travel management area currently and in the proposed action.**

<b>Designation</b>	<b>TMA Currently (Alternative A)</b>	<b>Proposed Action (Alternative D)</b>
OHV-Open/limited	1,429	2,108
OHV-Closed	732	53
Total	2,161	2,161

The BLM's environmental assessment analyzed four alternatives. The no action alternative (alternative A) and three action alternatives vary in the number of routes designated as open. This biological opinion evaluates the effects of alternative D, which designates the most miles of open routes of the considered action alternatives. The BLM had not identified a preferred action alternative when formal consultation was initiated in August 2024. However, the types of impacts to listed species are the same between alternatives, and the level of impacts associated with alternatives B, C, or any other alternative being considered are entirely encompassed by those in alternative D. There would be no individual routes designated under other alternatives that would have fewer use restrictions or greater effects to ESA listed species than under alternative D.

BLM has proposed closing certain routes in the Proposed Action. There are 53 mi of routes included in the evaluated network that are open in the existing travel management plan, but are receiving negligible to no use from the public, have a known resource issue that needs to be resolved, or are otherwise not sustainable.

The designated route network will be implemented, operated, and maintained according to the Implementation Guide found in Appendix G of the San Rafael Swell Travel Management Plan Biological Assessment (SRS TMP BA) (BLM 2024). All surface disturbing implementation activities described below will continue to follow the BLM-Committed Conservation Measures and Species-Specific BLM Committed Conservation Measures described in Appendix D of the Price and Appendix 14 of the Richfield Field Offices Proposed Resource Management Plan and Final Environmental Impact Statement (BLM 2008b and BLM 2008d) and summarized in Appendix E of the SRS TMP BA (BLM 2024).

The travel route network will be signed to identify routes and inform the public of locations, special conditions, and limitations. Activities associated with signage include ground disturbance (post-hole digging and minor grading) and may involve minor vegetation removal. Sign placement will be done in previously disturbed areas where available but may include previously undisturbed areas (outside the roadway and shoulder).

Maintenance of routes could be categorized into one of two categories: 1) routine maintenance that meets the purpose and need of the route and that does not extend beyond the edge of previous route disturbance; or 2) maintenance of a route that exceeds the standard of routine maintenance by either upgrading, widening, re-aligning, or otherwise creating new surface disturbance. Maintenance of designated routes as would typically be conducted as described in the first category would be considered part of the the Project. Maintenance of designated routes

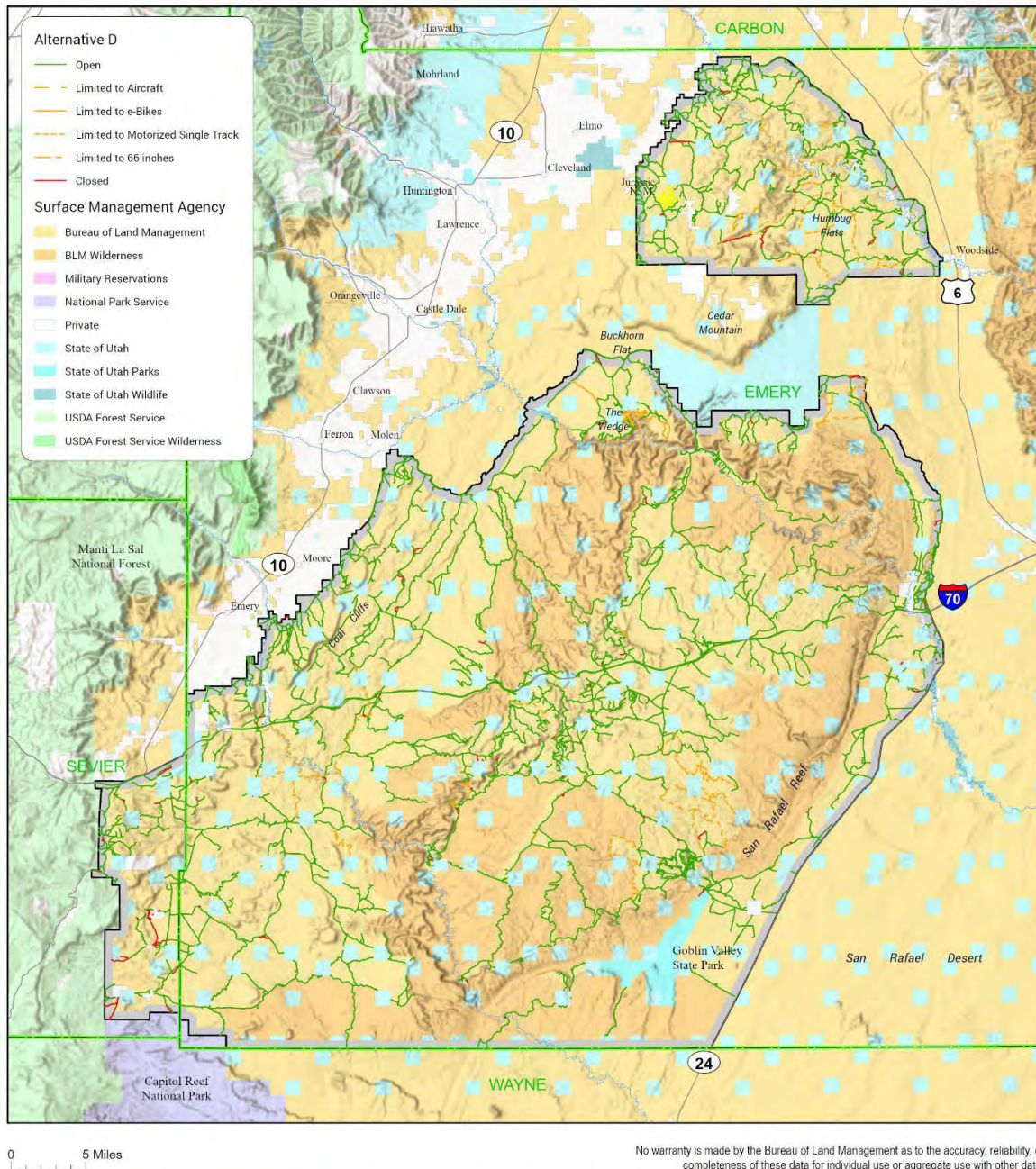
that fall into the second category (i.e., more than routine) would be conducted only after additional site-specific analysis and consultation if listed species were to occur in the area.

### *1.1 Action Area*

The action area is defined as “all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action” (50 CFR 402.02). The USFWS has determined that the action area for this project is all public and private lands within the Project boundary across portions of Emery and Kane counties in southern Utah (Figure 1). The action area for fish species consists of all contiguous waterways within the Upper Colorado River watershed that cross the planning area. This includes portions of the Price and San Rafael Rivers. This area totals approximately 1,880,400 ac (Figure 1).



Map 2: Proposed Travel Management Plan



**Figure 1. Action Area – Boundary of San Rafael Swell proposed travel management area (from BLM 2024).**

## *1.2 Agency Committed Conservation Measures*

The BLM will implement the following conservation measures below with the intent to avoid and minimize adverse effects to listed species resulting from the proposed action. The following conservation measures are from the Price and Richfield RMPs or were agreed to by the BLM as part of the consultation process and are applicable to the Project. Key conservation measures for species analyzed in this biological opinion are identified below, and a full list of conservation measures applicable to other listed species can be found in Appendix E of the BA.

### *General conservation measures*

- A. Use existing roads whenever possible rather than constructing new road systems<sup>1</sup> (BLM 2008a, b).
- B. Use public education and/or physical barriers (such as rocks, posts, and vegetation) to direct or preclude uses and to minimize impacts to resource values (BLM 2008a, b).
- C. OHV use should be designated as limited to existing roads and trails where known special status species populations exist (BLM 2008a, b).
- D. BLM will monitor and restrict, all authorized or permitted activities that may adversely impact listed species or their Designated Critical Habitats (BLM 2008b).
- E. BLM shall implement a 300-foot (ft) avoidance buffer between surface disturbance and ESA-listed plants when the need arises for Category 2 route improvements and will initiate ESA section 7 consultation with USFWS in each instance.
- F. Prior to surface disturbing activities associated with Category 2 route improvement actions in habitat for listed species, presence/absence surveys of potentially affected areas will be conducted in accordance with Utah Field Office Guidelines for Conduction and Reporting Botanical Inventories and Monitoring of Federally Listed, Proposed and Candidate Plants (USFWS 2011).
- G. BLM shall continue to document new populations of listed plant species as they are encountered and verify the accuracy of modeled habitat within the TMA as funding allows.
- H. Protect occupied ESA-listed plant habitat from recreational access and use. BLM will use signage and, where necessary, install physical obstructions to actively deter unauthorized off-route travel in occupied habitats.

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<sup>1</sup> Under the Project no new road construction will occur. Any new road construction that could potentially effect species listed under the ESA would require project-specific consultation.

*Mexican spotted owl*<sup>1</sup>

- A. Limit disturbances to and within suitable owl habitat by staying on designated routes.
- B. Road or trail maintenance, repair, and building in PACs will be undertaken during the non-breeding season (1 Sep - 28 Feb) to minimize disturbance to owls unless non-breeding is inferred or confirmed that year per the accepted survey protocol (Appendix D of Recovery Plan, USFWS 2012). Any new roads or construction, or category 2 maintenance activities occurring in PACs, would require additional analysis and consultation with USFWS.
- C. Management activities would be deferred from the nest/roost core during the breeding season (1 Mar - 31 Aug), except where non-breeding is confirmed or inferred that year per the accepted survey protocol (Appendix D of Recovery Plan).
- D. In PACs, other activities would be conducted outside of the breeding season unless pressing reasons dictate otherwise and would require USFWS concurrence. These activities include trail maintenance, road repair, removal of hazard trees, and utility-line maintenance. If the activity is conducted during the breeding season with owls present, owl locations would be known and documented during the conduct of the management action. Management actions would not be conducted in the vicinity of nesting owls, where vicinity is defined by the intensity of disturbance.
- E. As time and resources allow, assess habitat suitability (ground-truth) for both nesting and foraging using accepted habitat models in conjunction with field reviews.
- F. Continue to survey high-quality, ground-truthed MSO habitat within the TMA following the approved survey protocol found in the Recovery Plan as time and resources allow.
- G. Establish and implement monitoring of PACs and high-quality, ground-truthed MSO habitat for occupancy within the TMA following the approved survey protocol found in the Recovery Plan (USFWS 2012).
- H. Work with USFWS on establishing new PACs if criteria of an “owl site” as defined in the Recovery Plan (USFWS 2012) is met.
- I. As resources allow, conduct education through signing, interpretation events, access permitting, or other information sources to inform the public of proper and legal behaviors when encountering owls.

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<sup>1</sup> Although no Mexican spotted owls have been detected in the action area, these conservations measures include what should be done if owls are detected and PACs established in the future.

- a. For example, land managers in some areas are maintaining permanent, all-weather signs that inform the public that the area is home to a sensitive species; visitors should stay on the authorized routes and be as quiet and unobtrusive as possible.
- J. Managers would, on a case-specific basis, assess the presence and intensity of allowed (permitted and non-permitted) OHV use through PACs and high-quality, ground-truthed MSO habitat. The assessment should include distance, frequency, and duration of the disturbance. If recreation is determined to be a problem, limit human activities during the breeding season in areas occupied by owls (timing may vary depending on local nest chronology).
- K. In areas of designated critical habitat, ensure that any physical or biological factors (i.e., the primary constituent elements), as identified in determining and designating such habitat, remains intact during implementation of any BLM-authorized activity.

*Colorado pikeminnow*

- A. The BLM shall immediately notify the USFWS of any unforeseen impacts detected during project implementation. Any implementation action that may be contributing to the introduction of toxic materials or other causes of fish mortality must be immediately stopped until the situation is remedied. The action may proceed only after notification of USFWS authorities and results of investigative monitoring yield ambient conditions.
- B. Unoccupied, suitable habitat areas should be protected for future management actions associated with the recovery of the Colorado pikeminnow, as well as approved reintroduction or relocation efforts.
- C. BLM will avoid impacts, where feasible, to habitats considered most representative of prime suitable habitat for these species.
- D. Surface disturbing activities will be restricted to within or over ¼ mile of the channel centerline of the Green, Price, and San Rafael Rivers.
- E. Surface disturbing activities proposed to occur within floodplains or riparian areas will be avoided unless there is no practical alternative, or the development would enhance riparian/aquatic values. If activities must occur in these areas, construction will be designed to include mitigation efforts to maintain, restore, and/or improve riparian and aquatic conditions. If conditions cannot be maintained, offsite mitigation strategies should be considered.
- F. BLM will ensure project proponents are aware that designs must avoid as much direct disturbance to current populations and known habitats as is feasible. Designs should include:
  - a. protections against toxic spills into rivers and floodplains,

- b. plans for sedimentation reduction,
  - c. minimization of riparian vegetation loss or degradation,
  - d. pre-activity flagging of critical areas for avoidance,
  - e. design of stream-crossings for adequate passage of fish, and
  - f. measures to avoid or minimize impacts on water quality at the 25-year frequency runoff.
- G. Prior to surface disturbing activities, specific principles will be considered to control erosion. These principles include:
- a. BLM will ensure project proponents are aware that designs must avoid direct disturbance.
  - b. Prior to surface disturbing activities, specific principles will be considered to control erosion. These principles include:
    - i. Conduct long-range transportation and access planning for large areas, to ensure that roads will serve future needs. This will result in less total disturbance.
    - ii. Avoid, where possible, surface disturbance in areas with high erosion hazards.
    - iii. Design and locate roads to minimize roadway drainage areas and to avoid modifying the natural drainage areas of small streams.
  - c. Surface-disturbing activities require implementation of an approved stormwater management plan.
  - d. The stormwater management plan should provide more specifics on how runoff/sedimentation will be prevented from entering tributaries or rivers, how turbidity will be monitored, and what further steps will be taken should a threshold of excessive sedimentation or anoxia be reached.
- H. Design stream-crossings for adequate passage of fish (if present), minimum impact on water quality, and at a minimum, a 25-year frequency runoff event.

*Barneby reed-mustard*

- A. BLM will consider emergency OHV closure or additional restrictions to protect, conserve, and recover the species.
- B. In areas where dispersed recreational uses are identified as threats to populations of the species, BLM will consider the development of new recreational facilities/opportunities that concentrate dispersed recreational use away from habitat, especially occupied habitat.
- C. The BLM has, in coordination with USFWS, been monitoring known populations of the species within the TMA for multiple decades. Monitoring of these populations will continue, and records of monitoring will be submitted to USFWS at an agreed upon interval.

*Jones cycladenia*

- A. BLM will consider emergency OHV closure or additional restrictions to protect, conserve, and recover the species.
- B. In areas where dispersed recreational uses are identified as threats to populations of the species, BLM will consider the development of new recreational facilities/opportunities that concentrate dispersed recreational use away from habitat, especially occupied habitat.
- C. The BLM has, in coordination with USFWS, been monitoring known populations of the species for multiple decades. Monitoring of these populations will continue, and records of monitoring will be submitted to USFWS annually.

*Last Chance Townsendia*

- A. BLM will consider emergency OHV closure or additional restrictions to protect, conserve, and recover the species.
- B. In areas where dispersed recreational uses are identified as threats to populations of the species, BLM will consider the development of new recreational facilities/opportunities that concentrate dispersed recreational use away from habitat, especially occupied habitat.

*San Rafael and Winkler Cactus*

- A. BLM will consider emergency OHV closure or additional restrictions to protect, conserve, and recover the species.
- B. In areas where dispersed recreational uses are identified as threats to populations of the species, BLM will consider [concentrating] dispersed recreational use away from habitat, especially occupied habitat.
- C. If occupancy is determined based on clearance surveys (General Conservation Measure F), BLM will monitor all routes including routes designated as closed within occupied habitat to ensure compliance with the designation in the TMP. If monitoring indicates that disturbance or use is occurring outside the designated OHV open routes, BLM will implement appropriate corrective actions as identified in the Implementation Plan or developed in consultation with the USFWS.

*Ute ladies'-tresses*

- A. BLM will consider emergency OHV closure or additional restrictions to protect, conserve, and recover the species.

- B. In areas where dispersed recreational uses are identified as threats to populations of the species, BLM will consider the development of new recreational facilities/opportunities that concentrate dispersed recreational use away from habitat, especially occupied habitat.

*Wright fishhook cactus*

- A. BLM will consider emergency OHV closure or additional restrictions to protect, conserve, and recover the species.
- B. In areas where dispersed recreational uses are identified as threats to populations of the species, BLM will consider concentrating dispersed recreational use away from habitat, especially occupied habitat.
- C. If monitoring indicates that disturbance or use is occurring outside the designated OHV open routes within occupied habitat, BLM will implement appropriate corrective actions as identified in the Implementation Plan or developed in consultation with the USFWS.

## **2 STATUS OF THE SPECIES AND CRITICAL HABITAT**

The purpose of this section is to summarize the best available information regarding the current range-wide status of listed species analyzed in this document. Additional information regarding these species may be obtained from the sources cited below.

### *2.1 Mexican spotted owl*

#### *Species Description*

A detailed account of the taxonomy, biology, and reproductive characteristics of the Mexican spotted owl (hereafter referred to as Mexican spotted owl, spotted owl, and owl) is found in the final rule listing the owl as a threatened species (58 FR 14248), the original Recovery Plan (USFWS 1995), and in the revised Recovery Plan (USFWS 2012). The information provided in those documents is included herein by reference.

The Mexican spotted owl is one of three subspecies of spotted owl recognized by the American Ornithologists' Union (AOU 1957). The other two subspecies are the northern (*S. o. caurina*) and the California spotted owl (*S. o. occidentalis*). The Mexican spotted owl occurs in forested mountains and canyon lands in Utah, Colorado, Arizona, New Mexico, and the western portions of Texas south into several States of Mexico. Spotted owls in Utah are part of the Colorado Plateau Ecological Management Unit (CP EMU).

### *Life History and Population Dynamics*

Mexican spotted owls breed sporadically and do not nest every year (Ganey 1988). Courtship begins in March and eggs are laid in late March or, more typically, early April. Incubation begins shortly after the first egg is laid and is performed entirely by the female. Female spotted owls generally incubate for approximately 30 days. The eggs usually hatch in early May (Ganey 1988). Females brood their young almost constantly, leaving their nests for only brief periods during the night (Forsman et al. 1984; Delaney et al. 1999).

Mexican spotted owls have one of the lowest clutch sizes among North American owls (Johnsgard 1988); females lay one to three eggs, two being the most common. Nestling owls fledge from four to five weeks after hatching, from early to mid-June in most cases (Ganey 1988). Three weeks after leaving the nest owlets can feed on their own (Forsman et al. 1984).

Mexican spotted owls are “perch and pounce” predators (Forsman et al. 1976). Their prey items include woodrats, mice, voles, rabbits, gophers, bats, birds, reptiles, and arthropods. Mexican spotted owls dwelling in canyons of the Colorado Plateau take more woodrats and fewer birds than do spotted owls from other areas (Ward and Block 1995; Willey and Willey 2010).

The Mexican spotted owl’s life history is characterized by high and reasonably constant adult survival rates, low juvenile survival rates, and relatively low and highly variable reproductive rates (USFWS 2012). These life history characteristics allow owls to reproduce when conditions are favorable and to survive unfavorable periods with little or no reproduction, a strategy that has been coined “bet-hedging” (e.g., Boyce 1986; Franklin et al. 2000).

In the rocky-canyon habitats in southern Utah, mesic sites (e.g., Cedar Breaks and Zion) exhibit higher occupancy and recolonization rates and lower extirpation rates than xeric sites (e.g., Grand Staircase – Escalante or Capitol Reef), suggesting mesic sites are more stable (i.e., constant occupancy) than xeric sites (Willey and Willey 2010; Hockenbary 2011). Mesic habitats may have more favorable microclimates and habitat structure, roost and nest sites, and diverse habitats for the owl’s prey.

### *Status, Distribution, and Threats*

In 1993, we listed Mexican spotted owls as threatened under the Act (58 FR 14248). We developed the first recovery plan in 1995, and was revised in 2012 (USFWS 1995, USFWS 2012). The most recent 5-Year review was completed in 2023 (USFWS 2023).

The primary threats to the Mexican spotted owl at the time of listing in 1993 were identified as even-aged timber harvest and catastrophic wildfire (58 FR 14248). Grazing, recreation, and other land uses were also mentioned as possible factors influencing Mexican spotted owl populations. Since the publication of the original Recovery Plan, we acquired new information on the biology, threats, and habitat needs of the species. The primary threat to the species is now large, severe wildfires (USFWS 2012; 2023) and the accelerating and compounding effects of climate change. Historical and current anthropogenic uses of Mexican spotted owl habitat include domestic and wild ungulate grazing, recreation, fuels reduction treatments, resource extraction (e.g., timber,

oil, gas), and development (USFWS 2012; 2023). These activities have the potential to reduce the quality of owl nesting, roosting, and foraging habitat, and may cause disturbance during the breeding season (USFWS 2012).

The Mexican spotted owl population has increased from 758 documented owl sites in 1994 to 1,222 in 2004 and 1,324 in 2012 (USFWS 2012). This growth likely reflects improved survey efforts rather than a true population increase. An owl site is an area with a high probability of being used by a single or a pair of adult or subadult owls for nesting, roosting, or foraging (USFWS 2012).

The most recent 5-year review (USFWS 2023) did not provide updated totals or occupancy data but acknowledged more owl sites in the CP EMU since 2012. The 2012 recovery plan listed 206 owl sites in the CP EMU, which is likely an underestimate. By 2023, the CP EMU accounted for 16 percent of owl sites within the United States, with most occurring on NPS lands (64%), followed by BLM (22%) and USFS lands (13.5%) (USFWS 2012). These numbers are best interpreted as minimum cumulative numbers of locations where at least one owl was recorded during at least one breeding season since 1989.

#### *Critical Habitat Description*

In 2004, we designated approximately 8.6 million acres (ac) of critical habitat across 52 critical habitat units for the Mexican spotted owl on Federal lands in Arizona, Colorado, New Mexico, and Utah. We delineated units for Mexican spotted owls largely based on known localities of nest sites (PACs), at the time of designation. PACs are areas (at least 600 ac in size) around a known nest or roost site in which minimal management is recommended.

The final critical habitat rule (69 FR 53181) identified the Physical and Biological Features (PBFs) of critical habitat for forested habitats, canyon habitats, and prey species. The PBFs for forested habitats include a range of tree species; a shade canopy; and large dead trees. The PBFs related to canyon habitat include:

- Presence of water (often providing cooler and often higher humidity than the surrounding areas);
- Clumps or stringers of mixed-conifer, pine-oak, piñon-juniper, and/or riparian vegetation;
- Canyon walls containing crevices, ledges, or caves;
- High percent of ground litter and woody debris.

The primary threats to the species at the time of listing in 1993 were even-aged timber harvest and catastrophic wildfire (58 FR 14248). Grazing, recreation, and other land uses were also mentioned as possible factors. Since publication of the Recovery Plan, we acquired new information on the biology, threats, and habitat needs of the species. The primary threat to the species is now large, severe wildfires (USFWS 2012) and compounding effects of climate change. Historical and current anthropogenic uses of Mexican spotted owl habitat include domestic and wild ungulate grazing, recreation, fuels reduction treatments, resource extraction (e.g., timber, oil, gas), and development (USFWS 2012). These activities have the potential to reduce the quality of owl nesting, roosting, and foraging habitat, and may cause disturbance during the breeding season (USFWS 2012).

Overall, the status of the owl and its designated critical habitat has not changed significantly, range-wide in the U.S. since the time of listing (which includes Utah, Colorado, Arizona, New Mexico, and extreme southwestern Texas). The distribution of owls continues to cover the same general area, and critical habitat continues to provide for the life history needs of the Mexican spotted owl throughout all the EMUs located in the United States.

## 2.2 *Colorado pikeminnow*

### *Species Description*

The Colorado pikeminnow is the largest cyprinid fish (minnow family) native to North America and evolved as the main predator in the Colorado River system. Individuals begin consuming other fish and minnows at an early age, but smaller individuals will also feed on insects and other invertebrates at an early age (Sigler and Sigler 1996). The species is endemic to the Colorado River Basin, of the southwestern United States (Miller 1961; Tyus 1991).

Colorado pikeminnow are long distance migrators, moving hundreds of miles to and from spawning areas, and requiring long sections of river with unimpeded passage. They are adapted to desert river hydrology characterized by large spring peaks of snow-melt runoff and low, relatively stable base flows. Currently, wild populations of pikeminnow occur only in the Upper Colorado River Basin (USFWS 2022). The USFWS has designated six reaches of the Colorado River system as critical habitat, including portions of the Colorado, Green, Yampa, White, and San Juan Rivers, totaling 1,148 mi of critical habitat for the species (59 FR 13374).

The Colorado pikeminnow (as the Colorado squawfish) was first listed as an endangered species on March 11, 1967 (32 FR 4001). It is currently protected under the ESA as an endangered species throughout its range, except the Salt and Verde River drainages in Arizona. The latest revision of a recovery plan was published in September 2023 and was derived from the USFWS's April 2022 Species Status Assessment for the Colorado pikeminnow (USFWS 2022; USFWS 2023).

### *Life History and Population Dynamics*

Adult Colorado pikeminnow prefer medium to large rivers, where they occur in habitats ranging from deep, turbid rapids to flooded lowlands. Slow-moving backwaters serve as nursery areas for young pikeminnow (USFWS 2002). The Colorado pikeminnow primarily eats fish and minnows, but smaller individuals will also feed on insects and other invertebrates.

### *Status, Distribution, and Threats*

The SSA report (USFWS 2022) evaluated six “analysis units” throughout the Colorado River Basin based on geographic subbasins delineated by dams and reservoirs: Green River, upper Colorado River, San Juan River, Colorado River in Grand Canyon, Gila River, and lower Colorado River mainstem. Colorado pikeminnow has been extirpated from the three lower Colorado River basin (LCRB) units (Grand Canyon, Gila River, and lower Colorado River). The

three upper Colorado River basin (UCRB) units are delineated by subbasins and treated as populations. Demographic processes occur independently within each UCRB river subbasin, although individuals do move between the Green and upper Colorado rivers. In these three, extant UCRB subbasins (Green River, Upper Colorado River, and San Juan River), each population currently has a low overall condition for demographic factors (USFWS 2022). In the Green and upper Colorado River subbasins, low adult abundances and declines in adult numbers over the last 15–20 years influenced the low condition of the demographic factors. These population declines were the result of low production of age-0 fish and reduced recruitment.

Currently, populations in all three subbasins demonstrate low resiliency (USFWS 2022), so the recovery strategy for Colorado pikeminnow is to implement recovery actions and activities to improve the resiliency of populations in the Green and upper Colorado River subbasins from low resiliency to high resiliency.

Colorado pikeminnow make long distance migrations (409 mi round trip) to spawn and return to their home range, where they inhabit deep runs, pools, and eddies. Colorado pikeminnow eggs hatch in cobble spawning bars as spring high flows decline, and larvae subsequently emerge and are carried long distances by river flows to low velocity nursery habitats downstream. In these reaches, larvae and juveniles seek low to zero velocity backwaters that provide warm temperatures for growth and abundant food supply in the form of macroinvertebrates and small fish prey. Individual Colorado pikeminnow become sexually mature between 7 and 10 years of age and can spawn repeatedly as adults. Other habitat factors also influence Colorado pikeminnow life history. Both adult and nursery habitats, as well as spawning bars, are formed and maintained by high, snowmelt-driven spring flows that redistribute sediment, clean cobble substrates, and maintain channel complexity to provide a diversity of habitats.

Base flows the rest of the year maintain these habitats by providing sufficient water depth for movement between reaches. Summer base flows also transport larval Colorado pikeminnow to nursery habitats and determine the quantity and quality of those nursery backwaters. In addition to flows sufficient to create and maintain habitats, Colorado pikeminnow requires relatively warm water temperatures to initiate spawning (greater than 61–64°Fahrenheit (F)), incubate eggs (64–79°F), and support larval and juvenile growth (72– 86°F). Because Colorado pikeminnow often migrate to specific spawning sites with clean cobble bars, and adult, juvenile, and larval life stages require different habitat types, Colorado pikeminnow require a variety of connected habitats arranged in a particular longitudinal fashion. In addition, adult Colorado pikeminnow occupy home ranges in reaches of river that provide a forage base comprised of suitable abundance and species of prey fishes. As a result, the extent of connected riverine habitats contributes to basin carrying capacity for Colorado pikeminnow populations (USFWS).

The most recent recovery goals (USFWS 2022) identified in the SSA streamflow regulation and habitat modification (including cold-water dam releases, habitat loss, and blockage of migration corridors), competition with and predation by nonnative fish species, and pesticides and pollutants as the primary threats to the species. Changes in the flow regime as a result of water development throughout the Colorado River basin led to initial declines in Colorado pikeminnow

populations. Streamflow regulation has modified the natural hydrograph such that peak flows are generally diminished and base flows during summer are reduced. The combined effects of these changes are loss of habitat features such as backwater nursery habitats and reduced range when base flows are too low to allow fish movement between reaches. In some cases, this development created barriers to movement in the form of dams and diversions, which have fragmented river reaches and limited access to historical habitats. In the UCRB, including Lake Powell and its tributaries, the construction of large dams and diversions was more diffuse, leaving longer reaches of river available in downstream areas. Dams converted sections of rivers to cold water tailraces, altered hydrology through reduced spring peaks, and presented barriers to migration. Large dams can alter water temperatures through hypolimnetic releases, creating conditions too cold for Colorado pikeminnow growth and reproduction.

Water storage and flow management often reduces spring peaks necessary to create and maintain spawning and nursery habitats needed by Colorado pikeminnow, and reduces base flows, which can limit Colorado pikeminnow range and reduce habitat availability. Diversions can also entrain fish into water delivery systems and lead to direct mortality. Nonnative sport fishes were also introduced into reservoirs and riverine habitats throughout the entire Colorado River basin. Predation and competition from invasive, nonnative fishes reduces survival and recruitment of Colorado pikeminnow in all life stages.

The SSA's 2022 Recovery Goals identified nonnative fishes as a primary threat, but subsequently this threat has exacerbated, as additional species such as smallmouth bass and walleye have established throughout large portions of the Green and upper Colorado river subbasins. These more recent invasions have posed additional threats to Colorado pikeminnow, particularly for young life stages. Contaminants that impact water quality can reduce reproduction and survival of individuals or lead to population reductions in the case of large, toxic spills. Lastly, climate change and extended drought reduces streamflow in many river reaches, which strains efforts to manage flows to benefit Colorado pikeminnow (USFWS 2022)

#### *Critical Habitat Description*

The USFWS designated six reaches of the Colorado River system as critical habitat, including portions of the Colorado, Green, Yampa, White, and San Juan rivers, totaling 1,148 mi of critical habitat for the species (59 FR 13374). In Utah, we designated 726 mi of critical habitat in portions of the Green, Colorado, White, and San Juan rivers and their associated 100-year floodplains. We developed a recovery plan for the Colorado pikeminnow in 1991 and subsequently revised the plan in 2002 and 2023 (USFWS 2002, 2023). There is no critical habitat for Colorado pikeminnow in the action area.

### 2.3 *Barneby reed-mustard*

#### *Species Description*

Barneby reed-mustard (*Hesperidanthus barnebyi*) is a perennial, herbaceous plant in the mustard family (*Brassicaceae*) and is endemic to the Colorado Plateau in Utah. Barneby reed-mustard occurs between 5,000 and 6,850 ft in elevation where it inhabits xeric and fine-textured red clay soils rich in selenium and gypsum derived from the Moenkopi, Chinle, Cutler, Kaibab limestone, and Carmel Formations (USFWS 2021). Plants primarily occupy cool, steep, north-facing slopes and occupy different aspects (e.g., east-facing) at higher elevations, potentially due to cooler temperatures (Clark 2005). Barneby reed-mustard habitat is dominated by mixed desert shrub plant communities that include Torrey joint-fir (*Ephedra torreyana*), shadscale (*Atriplex confertifolia*), slender buckwheat (*Eriogonum corymbosum*), and prince's plume (*Stanleya pinnata*), as well as perennial and annual grasses and forbs (USFWS 2021).

Individual Barneby reed-mustard plants have stems that are 9 to 15 inches (in) tall, arising from a woody root crown, and with leaves that are entire, smooth, and typically 3 in long by 1 in wide; and are alternately arranged on the stems (USFWS 2021; Welsh et al. 2003). Barneby reed-mustard flowers from late April through May and produces inflorescences (a cluster of flowers) consisting of two to eight flowers with light purple petals that have a predominately darker purple vein (Welsh and Neese 1984). Barneby reed-mustard fruits are a long, slender silique (two-valved pod) containing multiple, small seeds.

#### *Life History and Population Dynamics*

Barneby reed-mustard reproduces sexually, but specific pollinators are not known. We have little information on the biology and life history of Barneby reed-mustard. Plants reproduce by seeds and the primary seed dispersal agents are gravity, wind, and rain (Welsh and Neese 1984).

#### *Status, Distribution, and Threats*

We listed Barneby reed-mustard as endangered throughout its range on January 14, 1992, under the Act as amended (57 FR 1398). At the time of listing, the primary threats to the species were mineral exploration and mining for uranium on BLM lands and recreation on NPS lands. No new threats have been identified since listing. Critical habitat was not designated at the time of listing due to the potential for collection (57 FR 1398). In 2021 we completed a five-year review of the species (USFWS 2021).

Barneby reed-mustard is a narrowly endemic species that occurs only in south-central Utah in Emery and Wayne Counties. There are four known populations including one (Sy's Butte/ Hidden Splendor) in the southern portion of the San Rafael Swell on BLM and State of Utah lands, and the other three populations (Fremont River, Sulphur Creek, and Horse Saddle) on NPS lands in Capital Reef National Park (USFWS 2011; NatureServe Explorer 2024). There are approximately 1,149,394 ac of potential habitat for Barneby reed-mustard range-wide, and approximately 14,887 ac of occupied habitat incorporating less than 3,000 plants (USFWS 2021).

### *Critical Habitat Description*

Critical habitat has not been proposed or designated for Barneby reed-mustard.

#### 2.4 *Jones cycladenia*

##### *Species Description*

Jones cycladenia (*Cycladenia humilis* var. *jonesii*) is a long-lived, perennial plant in the dogbane family (*Apocynaceae*) and is endemic to the Colorado Plateau in Utah and Arizona (Welsh et al. 2008; USFWS 2021b). Jones cycladenia occurs between 4,000 to 6,660 ft in elevation in gypsiferous and saline soils derived from the Wasatch, Cutler, Summerville, and Chinle formations (USFWS 2021b). Typical plant communities in Jones cycladenia habitat include sparsely vegetated mixed desert scrub, juniper (*Juniperus osteosperma*), and desert shrubs including wild buckwheat (*Eriogonum corymbosum*) and joint-fir (*Ephedra* spp.; USFWS 2021b).

Individual plants are 4.3 to 14.2 in tall and have whiteish-blue waxy (bloom) covered hairless stems and leaves (USFWS 2021c; Welsh et al. 2008). The leaves are 1.4 to 3.7 in long and 0.8 to 2.6 in wide, oval to circular in shape, and thickened (USFWS 2021c). Inflorescences are up to one in long with lanceolate bracts that can be leaf like. The calyx lobes are 0.2 to 0.4 in long and hairy. Jones cycladenia petals are dimorphic (of two shapes), broadly or narrowly lobed, and rose purple in color (USFWS 2021c). The fruits are 1.8 to 3.7 in long and contain numerous small (less than 0.5 in) brown seeds that have a 0.8 in tuft of hair (coma) attached (USFWS 2021c). Jones cycladenia typically flower from mid-April through early June (Welsh et al. 2003).

##### *Life History and Population Dynamics*

Jones cycladenia reproduces clonally (asexually by rhizomes) and individual plants (genets) may have several to a hundred above ground stems (ramets). Sexual reproduction occurs infrequently and may be limited because of small population sizes, a limited gene pool, and pollinator limitation likely resulting from the potential loss of specialist pollinators (USFWS 2021b). Jones cycladenia appears to be partly self-compatible but needs pollinators to transport pollen between flowers for any seed production to occur (Sipes and Tepedino 1996). Flowers have an extremely low visitation rate by pollinators, and we do not know the important pollinators for this taxon (Sipes et al. 1994; Spence 1994; Sipes and Tepedino 1996). Flower visitors include a variety of diurnal insects, including butterflies, and bees (Sipes et al. 1994; Sipes and Tepedino 1996). While flowers and fruits are commonly observed, no seedlings have been documented in the wild (USFWS 2021b).

##### *Status, Distribution, and Threats*

We listed Jones cycladenia as threatened throughout its range on May 5, 1986, under the Act as amended (51 FR 16526). At the time of listing the primary threats to the species were the loss and fragmentation of habitats associated with off-highway vehicles (OHV), energy development

(oil, natural gas, tar sands), and mineral (uranium) development. The final listing rule also recognized that low reproductive rates, small population size, and fragile soils, which are easily degraded and slow to recover, were vulnerabilities to Jones cycladenia. No new threats have been identified since listing. Existing state and federal regulatory mechanisms were considered inadequate to reduce threats. Critical habitat was not designated at the time of listing due to the potential for over collection and vandalism (51 FR 16526). In 2021, we finalized the Recovery Plan, biological report, and a five-year review (USFWS 2021b; USFWS 2021c; USFWS 2021d).

At the time of listing, we estimated the total population of Jones cycladenia to be 7,500 stems (ramets) within four populations (Purple Hills, Onion Creek, Shadscale Mesa, Hatt Ranch) (51 FR 16526). Jones cycladenia now occupies more sites and has a larger range with 20 populations across 60 sites in the central and southern Utah counties of Emery, Grand, Garfield, San Juan, and Kane, and Mohave County in northern Arizona (USFWS 2021c). The entire range of Jones cycladenia is approximately 162 mi north to south and the approximately 186 mi east to west (USFWS 2021c). We now estimate the total population to be 3,567 individuals (genets) based on 79,196 stems (ramets; USFWS 2021c). This large increase in total individuals and range is a result of additional survey efforts from our conservation partners after the listing decision.

Across the range, there are two large populations (Shadscale Mesa, Dome Plateau) that comprise 45 percent of the total population; three medium populations (Hatt Ranch, Big Bend, and Woodbury Canyon) comprising 31 percent of the total population; and 15 small populations (Joe Hutch Creek, Adobe Mesa, Fisher Mesa, Onion Creek, Dead Horse Point, Deer Point, Moody Creek, Silver Creek, Pioneer Mesa, Purple Hills, Horse Canyon, East Choprock Bench, Moody Canyon, Escalante River, and Potter Canyon) that comprise 24 percent of the total population (USFWS 2021c). Recent trend monitoring has occurred in three populations (Potter Canyon, Purple Hills, and Woodbury Canyon). The Purple Hills population trend was stable, but the two other populations show a distinct downward population trend (USFWS 2021c). However, more monitoring is needed across the range of the species.

Threats to Jones cycladenia include energy development (oil, natural gas, and tar sands) and mineral development (USFWS 2021b). Small populations, low levels of sexual reproduction, and pollinator availability, while not considered threats, are present and affecting Jones cycladenia across its range. OHV recreation is no longer considered a threat due to restriction of the activity to existing roads on public lands and the success of deterrent measures (USFWS 2021b). These vulnerabilities may exacerbate any effects from the identified threats from development. Climate change is not a threat to Jones cycladenia at this time and we do not have enough information to determine whether it will become a threat in the future. Additional information on the threats to Jones cycladenia can be found in the Biological Report and 5-year review (USFWS 2021c; USFWS 2021d).

A large portion (44 percent) of Jones cycladenia populations occur on lands open to oil, natural gas, and tar sands development, along with mineral development (89 percent) where surface disturbing activities are permitted on Federal lands (USFWS 2021c). Due to the future threat of energy and mineral development, the recovery strategy for Jones cycladenia focuses on conserving known populations, primarily by protecting its habitat from degradation and loss.

### *Critical Habitat Description*

Critical habitat was not designated at the time of listing due to the potential for over collection and vandalism (51 FR 16526). Critical habitat has not been proposed or designated for Jones cycladenia.

#### 2.5 *Last Chance townsendia*

##### *Species Description*

Last Chance townsendia is a small, stemless, mound-forming perennial plant in the sunflower family (Cronquist et al. 1994; Welsh et al. 2008). The species was first described in 1968 and is named for the apricot color of the flowers, which distinguish it from other members of the *Townsendia* genus (Welsh and Reveal 1968; USFWS 1993; Welsh et al. 2008). Plants measure less than 1 in tall and 2 in wide with narrow leaves that are covered with fine hairs. Leaves and flowers are borne at ground level. Flowering occurs from mid-March through May. Fruits are achenes that develop April through late-May. For a technical description of the species, see Welsh et al. (2008). The species is a narrow endemic, which occurs in south-central Utah in Emery, Sevier, and Wayne counties. Within that range, the species occurs over a wide elevation gradient (6,102 to 9,100 ft) on several different geological formations, particularly favoring fine- textured shale soils, and within a variety of plant communities (USFWS 2013; Welsh et al. 2015).

##### *Life History and Population Dynamics*

Last Chance townsendia appears to be a short-lived perennial that begins to flower in the second year of life when individuals achieve a size of approximately 0.6 to 0.8 inches in diameter. Reproduction is positively correlated with plant size so larger plants produce more flowers than small plants. However, few individuals survived and grew larger than 1.6 inches in diameter at the Ivie Creek study site, elevation 7,217 ft (Tepedino et al. 2004). Plant longevity of 232 individuals was also studied at one demography plot on BLM land in the Upper Last Chance Creek population since 1996, elevation 7,400 ft. Most of the Last Chance townsendia individuals did not survive past 6 years of age and the three longest-lived individuals in the plot had a minimum known age of 13 years (Clark 2008). In the long-term plot, reproduction was positively correlated with the number of leaf rosettes. Over a ten-year period, individuals with one leaf rosette flowered 35 percent of the time, individuals with four leaf rosettes flowered 80 percent of the time, and individuals with 16 or more leaf rosettes flowered 100 percent of the time (Clark 2008).

Seeds in the *Townsendia* genus are produced either sexually or asexually and several *Townsendia* species utilize both strategies and are comprised of separate sexual and asexual populations (Beaman 1957). The breeding system of Last Chance townsendia was evaluated at a study site along Ivie Creek. Individuals produced most of their seeds by sexual means, whereby flowers require pollen from other Last Chance townsendia plants by a pollination vector. Seed production from two selfing (asexual reproduction) treatments was very low and indicates that selfing is a rare occurrence at this site (Tepedino et al. 2004). Data from three other study sites

were consistent with sexual, diploid populations of *Townsendia* based upon pollen and isozyme characteristics (Jennings 2005). These data confirm the species is sexual and diploid at study sites, but do not rule out the possibility that populations at higher elevations reproduce asexually. The primary pollinators of Last Chance townsendia at the Ivie Creek study site are native solitary bees. The early spring bee (*Synalonia fulvitaris*) was the most abundant bee species and is a ground nesting bee. Some of the other native bees nest in holes in wood. For a complete list of pollinators, see Tepedino et al. (2004).

The species appears to rely on a moderate-lived seedbank that enables the species to persist during long periods of drought conditions. A detailed look at the BLM annual monitoring data does show the species was dormant and not detectable for one to seven consecutive years at 11 low-elevation monitoring sites (Robinson 2013). Thus, multiple years of monitoring may be necessary for a site to be considered extirpated at historic locations or considered present within suitable habitat. Above-ground abundance of Last Chance townsendia appears to be sensitive to drought conditions, particularly at low-elevation sites (Clark 2002; 2008; Rocky Mountain Environmental Research, Inc. (RMER) 2011). Decline in abundance due to drought conditions appeared to be more severe at lower elevations on BLM land and at Capital Reef National Park compared to higher elevations on U. S. Forest Service (USFS) land (Clark 2002; Clark 2009; RMER 2004). On USFS land, the population trend of Last Chance townsendia is less apparent because of infrequent monitoring; however, these populations appear to be stable (Tait 2013).

#### *Status, Distribution, and Threats*

We listed Last Chance townsendia as threatened throughout its range on October 6, 1985, under the Act (50 FR 33734). There is no critical habitat designated for the species. The latest species status review was a 5-year review completed in 2019 (USFWS 2019).

Currently, there are 1,845,601 ac modeled potential habitat, with 221,446 ac of known occupied habitat across the species' range. Potential habitat is based on a predictive habitat model and both suitable and unsuitable habitat occur within the potential habitat polygon. Because surveys have not occurred throughout the entire species' range, habitat acres and population sizes are likely underestimates. In 2019, we estimated a total of 7,184 individuals within 23 populations, with most individuals (53 percent) occurring on BLM land administered by the Price and Richfield field offices (USFWS 2019). Twenty-five percent of the plants were located within Capital Reef National Park, 21 percent were located on adjacent land in the Dixie and Fishlake National Forest, and 1 percent were located on State of Utah lands (USFWS 2019). However, because some of the counts are more than a decade old (USFWS 2019), the actual plant count likely underrepresents the total population size for the species. In addition, plant counts are likely underestimated because of the difficulty of detecting seedlings and non-flowering individuals in the field, and unsurveyed suitable habitat within the range still exists (Clark 2013; USFWS 2013; CRNP 2017; USFWS 2019). Therefore, we believe this represents a conservative population estimate.

Last Chance townsendia occurs over a wide elevation gradient and on a variety of soil substrates. The published elevation range of the species is 6,102 to 8,005 ft (Welsh et al. 2008), but newly located populations of Last Chance townsendia have increased the upper elevation limit to 9,100

ft (Clark 2011). The species occurs on a variety of geologic substrates and the majority of populations are found on soils within the Moenkopi Formation, Morrison Formation, Mancos Shale Group, and the San Rafael Group. However, the species appears to be restricted to fine-textured shale soils within each formation (Clark 2011).

At the time of listing and the recovery plan, we concluded that Last Chance townsendia was threatened due to mineral and energy development, road building, livestock grazing, and OHV use. Our recent status reviews identified climate change and the combination of multiples stressors that include mineral and energy development, livestock grazing, wild horse and burro activity, OHV use, and range improvements to be threats to the species (USFWS 2013; USFWS 2019). More recently, wildfire and fuel reduction treatments have become potential stressors to the species.

All grazing was removed from the Hartnet grazing allotment within Capital Reef National Park in 2018 and most plants in the allotment were located far away from areas frequented by cattle (CRNP 2018) and were consistently documented to receive low effects from cattle prior to that action (Heil 1994; Borthwick 2013; USFWS 2013). We have no up-to-date information for grazing effects on Last Chance townsendia on BLM or USFS lands. Climate change is a stressor that is predicted to increase in the future (Krause 2010). Lower elevations of the species range appear to be most susceptible to range contractions in the future. Predictive habitat models were developed for Last Chance townsendia and show large declines in habitat for the species before 2040 (Krause 2010).

#### *Critical Habitat Description*

Critical habitat has not been proposed or designated for Last Chance townsendia.

### 2.6 *San Rafael cactus*

#### *Species Description*

San Rafael cactus is a small sub-globose cactus. Plants have one or more stems, 1.5 – 2.4 inches tall and 1.2–3.7 inches in diameter. Stems contain spirally arranged tubercles (swollen leaf bases; 0.2–0.4 inches long) with areoles at their tip. The areoles are elliptic, typically without woolly hairs, with nine to 13 radial spines, and no central spine. Radial spines (0.08 – 0.24 inches long) are white, straight or curved, but not hooked. Flowers are 0.9–1.0 inches long and colored yellow bronze, peach bronze, or pink with a purple mid-stripe. Fruits are barrel-shaped (0.3 – 0.4 inches long), turn reddish-brown when mature, and contain many shiny, black seeds (Heil et al. 1981; Welsh et al. 2015; Welsh and Goodrich 1980; Robinson 2011).

#### *Life History and Population Dynamics*

We have no long-term demographic data for San Rafael cactus, although the BLM started collecting these data at the Wedge population in 2019 (USFWS 2020). We assume that San Rafael cactus is similar to Winkler cactus in its life history characteristics and response to stressors, and we use Winkler cactus as a surrogate species where we lack species-specific

information for San Rafael cactus. The information we have indicates San Rafael cactus has a more diverse assemblage of pollinators, including bees from multiple families, than Winkler cactus (Tepedino 2000).

### *Status, Distribution, and Threats*

We listed San Rafael cactus as endangered on October 16, 1987 (52 FR 34914) under the Act due to threats from illegal collection, recreation (specifically OHV use), livestock trampling, and energy and mineral development (oil and gas, gypsum mining). A draft recovery plan was published in 2016 but not finalized (USFWS 2016) and an updated biological report was finalized in 2024 along with a five-year review (USFWS 2024a, 2024b)

San Rafael cactus is currently known to occur in 29 populations in central Utah (Emery and Sevier Counties), all within the Colorado Plateau ecoregion. The species continues to persist within the two populations (Wedge and Millsite/Clawson) known at the time of listing and the 27 new populations discovered or ascribed to the species based on genetic results. We are not aware of any populations that have been extirpated. We grouped plant location data into populations based on NatureServe criteria (sites more than 1.2 mi apart over suitable habitat or more than 0.6 mi apart over unsuitable habitat) (NatureServe 2020). We incorporated new survey information through the 2022 field season and combined two populations (Wedge and Little Wedge) identified in the draft recovery plan based on new survey data (USFWS 2024a). San Rafael cactus occurs primarily on Federal lands managed by the BLM and USFS, as well as SITLA, and private lands. There remains a fair amount of unsurveyed, suitable habitat on all (Federal, State, private) landownerships.

San Rafael cactus has 29 populations with 21,555 plants. We used the same three population size categories as Winkler cactus—small populations have 500 or fewer plants; medium populations have 501–1,000 plants; and large populations have more than 1,000 plants. There are five large populations, 3 medium populations, and 21 small populations. The total population count is much larger than reported in the 2016 draft recovery plan (8,553 plants) because of an expanded survey effort by the BLM and the addition of the Blue Bench population in Sevier County (Wang 2018).

As with Winkler cactus, known population counts should be considered conservative numbers erring on the low side of actual plant abundance since seedlings and dormant plants are difficult or impossible to detect. It is also difficult to know whether a plant is dormant or dead (Shryock et al. 2014). We consider a recent population viability assessment for Winkler cactus to be a surrogate for San Rafael cactus when evaluating the species response to various stressors (Hornbeck 2021). The summary of results for Winkler cactus are provided in section 2.1.5, Population Abundance and Trends.

Three populations (Wedge, Millsite/Clawson, Molen Tanks/Ferron) are identified as priorities for monitoring based on their large size and documented stressors. We also recommend that one or more populations in the Muddy Creek Wilderness (Slaughter Slopes, North and West McKay Flat, Big Ridge South/Keesle Country, Big Ridge West, Horse Valley, Sinbad Country) be

prioritized for monitoring to assess the effect of wilderness designation and changes in land use to the species.

There have been significant land use changes in the range of San Rafael cactus since our last evaluation in 2016 (USFWS 2016). In 2019, the John D. Dingell, Jr. Conservation, Management, and Recreation Act (Dingell Act, P.L. 116-9) designated approximately 473,865 ac of wilderness and 247,204 ac of special recreation areas within the species' range in Emery County to be managed by the BLM. The Dingell Act land exchange between BLM and SITLA is in progress to transfer State lands within the designated wilderness areas to the BLM. Approximately 13 percent of the San Rafael cactus total population occurs in wilderness areas and approximately 19 percent of the total population occurs in special recreation areas. As of August 2024, these land exchanges have not occurred throughout the range of San Rafael cactus (Truman 2024, pers comm.).

Threats from livestock use, recreation, and illegal collection in combination with other threats and stressors may impact Winkler cactus and San Rafael cactus' resiliency, redundancy, and representation. Chronic livestock use and recreation continue to occur in populations of the two species, and we assume that some level of illegal collection continues to occur. We expect the two species will have a low resiliency to these threats in part due to their inherent vulnerabilities that include small population size, low levels of growth and sexual reproduction, and a short-lived seedbank. Future potential losses may reduce the number of resilient populations (redundancy), and the genetic diversity of the two species (representation), affecting their ability to adapt to changes in the environment.

#### *Critical Habitat Description*

Critical Habitat has not been proposed or designated for San Rafael cactus

### *2.7 Ute ladies'-tresses*

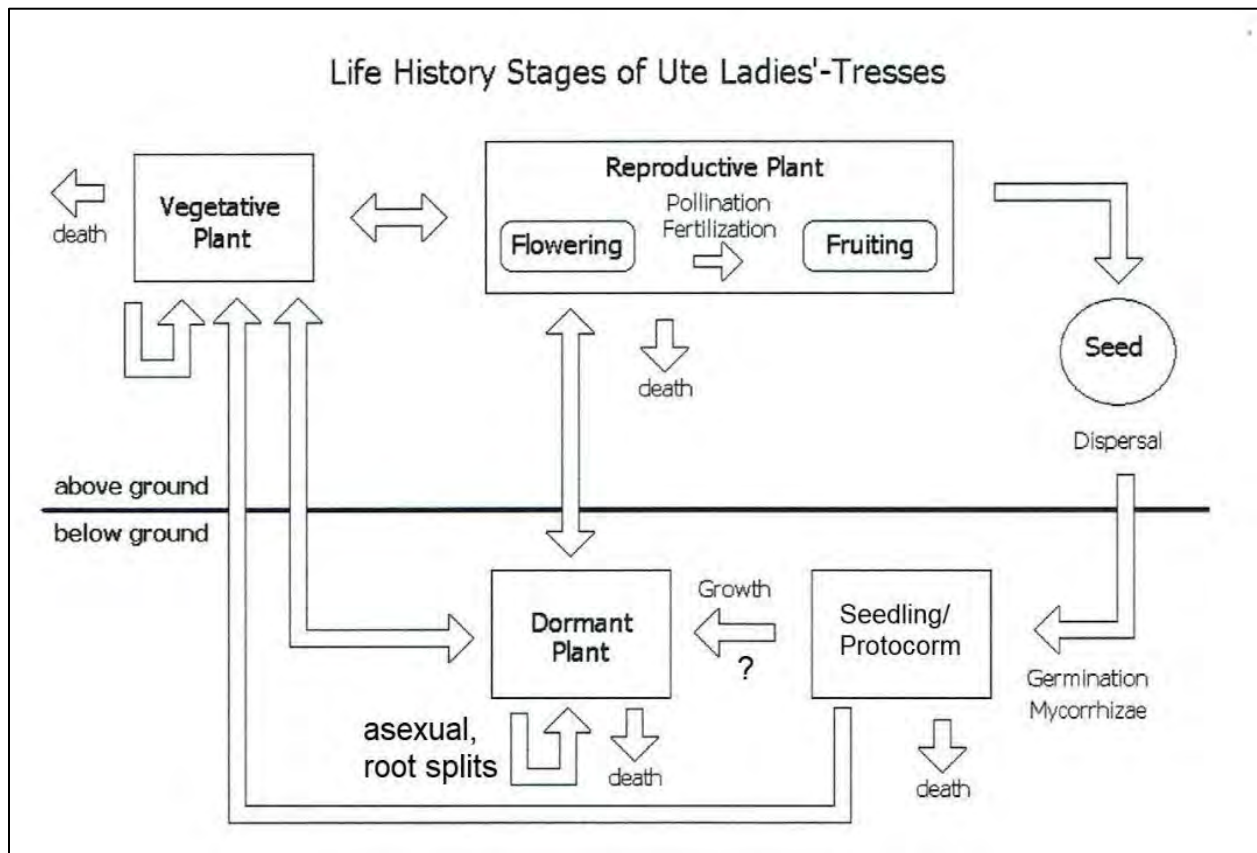
#### *Species Description*

The species is a perennial in the orchid family (*Orchidaceae*) that first emerges above ground as a rosette of thickened leaves and is very difficult to distinguish from other vegetation given the dense herbaceous vegetation where the species often grows. Its leaves are up to 0.6 in wide and 11 in long; the longest leaves are near the base. The usually solitary flowering stem is 8 to 20 in tall, terminating in a spike of 3 to 15 white or ivory flowers. Flowering generally occurs from mid-July through August. However, in some locations the species may bloom in early July or may still be in flower as late as early October, depending on elevation and timing of high-water flows.

Ute ladies'-tresses looks most similar to hooded ladies'-tresses (*Spiranthes romanzoffina*) but differs in the detailed characteristics of the individual flowers. In hooded ladies'-tresses (which is more common), each individual flower has petals and sepals that are fused to form a covering, or "hood." In Ute ladies'-tresses, these floral parts are not fused, appearing instead to be widely spread, or "gaping" open.

### *Life History and Population Dynamics*

Ute ladies'-tresses is a perennial plant that appears to be long-lived and able to survive unfavorable conditions in a state of dormancy for multiple years, either as an adult root mass or a germinated seedling in a symbiotic mycorrhizal (fungal) association, known as a protocorm (Fertig et al. 2005; Figure 2). This life history strategy has not been confirmed specifically in Ute ladies'-tresses but is common in other terrestrial orchids (Yeung 2017). The observed behavior of Ute ladies'-tresses in the field is consistent with this hypothesis (USFWS 2023). The dependence of terrestrial orchids on mycorrhizae during all life stages appears to be ubiquitous, and the orchid species that have been studied rely on a unique type of mycorrhizae that involve a phylogenetically distinct group of soil fungi (Batty et al. 2002).



**Figure 2. Life history stages of Ute ladies'-tresses.**

Plants may transition from being vegetative to reproductive or from reproductive to vegetative in above-ground years, and periods of dormancy below ground may occur throughout a plant's life. Several stages can persist for multiple seasons, as indicated by an arrow circling back on itself. The dust sized seeds are easily dispersed by wind and water and contain only a small amount of nourishment for the embryo after the seed has germinated (Sipes et al. 1995). An embryo may survive if it quickly forms a mycorrhizal association and is able to obtain nutrients directly from the soil fungi without relying on photosynthesis (Hildebrand 1998; McGonigle and Sheridan 2004). It is unknown how long protocorms may persist underground before transitioning to either a dormant adult plant or a vegetative plant, but we assume that it must require at least one year or

more before emerging above ground. Mycorrhizae are likely a limiting factor for Ute ladies'-tresses establishment and reproduction (Fertig et al. 2005).

New vegetative growth appears as a basal rosette of grass-like leaves in fall (usually in October) and then will overwinter. Not all adult plants flower or emerge from underground each year. Whether or not an individual adult emerges or flowers in a given year likely has to do with environmental conditions and when it last flowered. A plant that flowered in the previous year may be more likely to remain vegetative or become dormant the next year than one that did not. However, because only flowering individuals can be reliably detected in the field, it is difficult to track these cycles (USFWS 2023).

Ute ladies'-tresses occurs in a wide variety of human-modified and natural habitats, including, seasonally flooded river terraces, sub-irrigated or spring-fed abandoned stream channels and valleys, and lakeshores (Jennings 1989; USFWS 1992; Fertig et al. 2005). Numerous populations also occur along irrigation canals, behind berms, within abandoned roadside borrow pits, along reservoir edges, and other human created or modified wetlands.

Streamside populations of Ute ladies'-tresses typically occur on shallow alluvial soils overlying permeable cobbles, gravels, and sediments, although it can be found in a wide range of soil types. It is not usually found in soils which are highly saline or acidic (USFWS 2023). Across the range of the species, populations occur at elevations ranging from 720 to 1,830 ft in Washington and British Columbia to 7,000 ft in northern Utah (Fertig et al. 2005).

Most Ute ladies'-tresses sites have early-to-mid seral successional vegetation (well-established grasses and forbs) communities that are maintained by regular, moderate disturbance such as flooding, livestock grazing, mowing, ditch and irrigation maintenance, and prescribed fire (Allison 2001; Fertig et al. 2005). Ute ladies'-tresses may persist for some time in the grassy understory of woody riparian shrublands, but it does not appear to thrive under these conditions (Ward and Naumann 1998). Nearly all streambank, floodplain, and abandoned ox-bow sites occupied by Ute ladies'-tresses have a high-water table (usually within 5 to 18 in of the surface) augmented by seasonal flooding, snowmelt, runoff, and often irrigation (Jennings 1989; Arft 1995; Baker 1999; Riedel 2002). Soils must be sufficiently stable and moist in the summer flowering season to support the species (Ward and Naumann 1998). Sites located in springs or sub-irrigated meadows appear to be fed by groundwater rather than surface flows.

Less is known about the average depths to groundwater in these locations, but it is reasonable to assume that (as with locations where groundwater depths have been quantified) groundwater must remain relatively close to the surface to sustain the moist soils consistently associated with Ute ladies'-tresses. Consistent surface or subsurface water availability maintained by suitable natural or man-made hydrology and an open canopy appear to be the most important habitat characteristics to meet the needs of Ute ladies'-tresses.

### *Status, Distribution, and Threats*

We listed Ute ladies'-tresses as threatened in its entire range under the Act on January 17, 1992 (USFWS 1992). A draft recovery plan was prepared, but not finalized (USFWS 1995). The descriptions that follow are derived from the most recent species status assessment document (USFWS 2023). Ute ladies'-tresses was first described as a species in 1984 by Dr. Charles J. Sheviak from a population discovered near Golden, Colorado (Sheviak 1984).

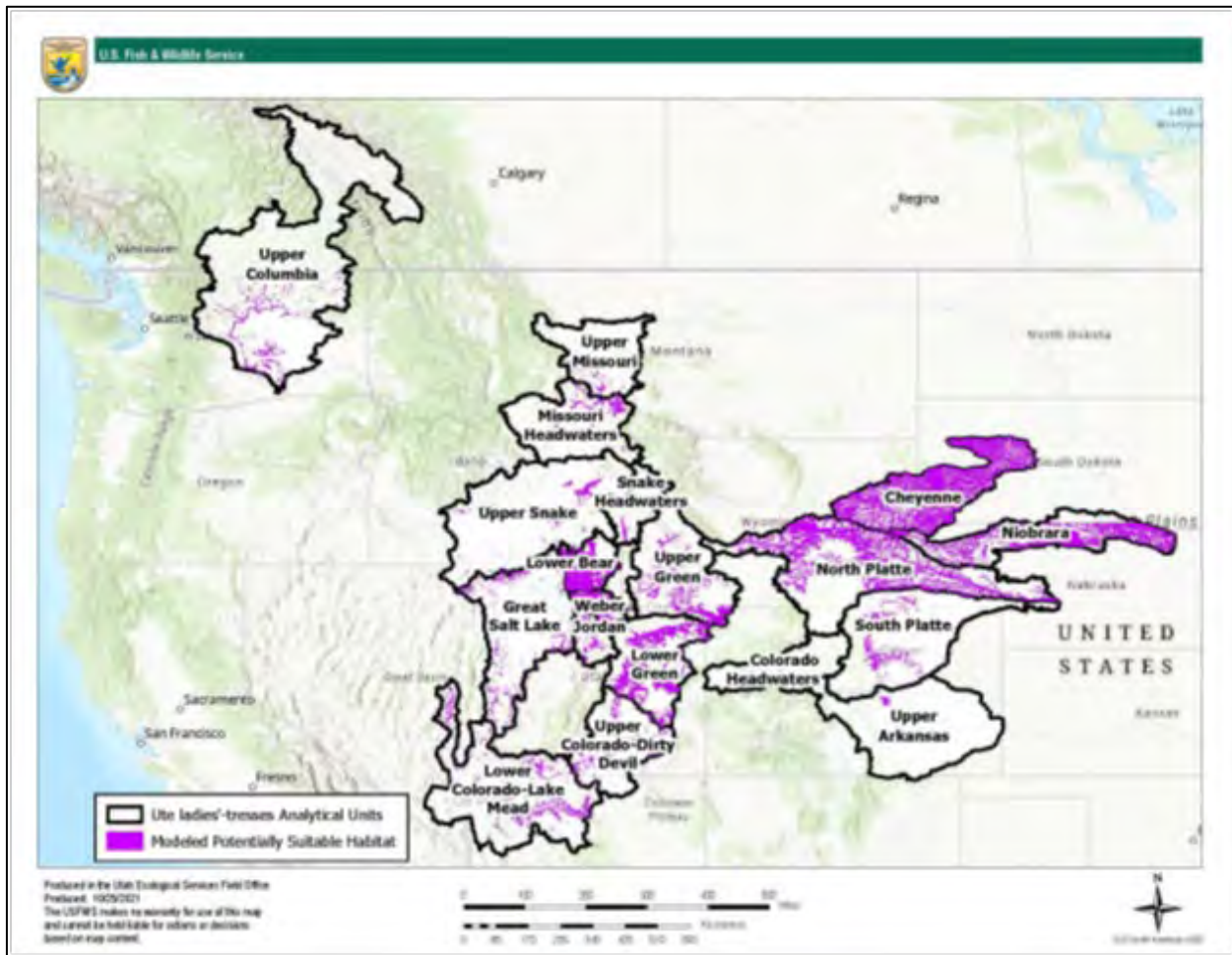
When it was listed under the Act in 1992, Ute ladies'-tresses was known from 10 extant populations within portions of only two states (Colorado and Utah, USFWS 1992), and encompass approximately 170 ac of occupied habitat. At listing, the species was presumed extirpated in Nevada. Since listing, Ute ladies'-tresses was rediscovered in Nevada, and new populations were discovered in southern Idaho, southwestern Montana, western Nebraska, Utah, central and northern Washington, and southeastern Wyoming, and south-central British Columbia. In addition, it has also been rediscovered in two counties in Utah from which it was believed to be extirpated for 60 to 100 years (USFWS 2023).

When the species was listed under the Act in 1992, the rangewide population was estimated to contain fewer than 6,000 individuals (USFWS 1992). In 1995, the draft recovery plan increased this estimate to 20,500 individuals, primarily the result of 21 new populations discovered over the previous 3 years (USFWS 1995b). As of 2005, 53 populations were estimated to collectively contain more than 80,000 (83,316) individuals (Fertig et al. 2005). While we do not have a current rangewide population estimate, increased survey efforts have resulted in the identification of more occurrences and individuals than at the time of listing.

In 2023, we completed a Species Status Assessment (SSA; USFWS 2023) for Ute ladies'-tresses, using rangewide data compiled from by the Wyoming Natural Diversity Database (WYNDD 2017) and supplemental survey conducted between 2017-2021. Due to the difficulties of delineating traditional populations for a plant species with shifting habitat and distribution, we redefined the distribution of Ute ladies'-tresses into Analytical Units (AU) corresponding to the level 6 (basin level) Hydrologic Unit Codes (HUC6).

Within each AU, we grouped Ute ladies'-tresses records into occurrences based on NatureServe criteria for plants that disperse via waterways (NatureServe 2004). In the SSA, we further define a Ute ladies'-tresses occurrence as all individuals separated by no more than ~6 mi along a river, stream, or canal without breaks of more than 2 km of unsuitable habitat or a barrier (such as a dam) between them, or Ute ladies'-tresses individuals not along a connected waterway but within 1.2 mi of each other without breaks of more than 0.6 mi of unsuitable habitat or a barrier between them.

Ute ladies'-tresses has been found in a total of 19 AUs across eight states and one Canadian province, with 71 occupied occurrences. In 2019 a predictive habitat model was developed projecting potentially suitable habitat for Ute ladies'-tresses throughout the species range (Juliussan 2019; Figure 3). The Upper Arkansas AU is considered extirpated, but all others remain occupied. For more information on the range, status, and distribution of Ute ladies'-tresses, see the Ute ladies'-tresses SSA (USFWS 2023).



**Figure 3. Ute ladies'-tresses analytical units with modeled potential habitat.**

At the time of listing, we identified habitat loss and modification as the primary threat to the species, but also noted that small population sizes and low reproductive rates rendered Ute ladies'-tresses vulnerable to other threats (USFWS 1992). Our listing rule identified several specific forms of habitat loss and modification as threats to Ute ladies'-tresses, including urbanization, water development and conversion of lands to agriculture, excessive livestock grazing, excessive or inappropriate use of herbicides or other chemicals, and the proliferation of invasive exotic plant species. In addition, we concluded that the species may be subject to over-collection, given its status as an orchid and inquiries from orchid enthusiasts and wildflower collectors.

Today, many of these same threats affect Ute ladies'-tresses at least at the site-specific level, and some newer stressors have emerged (USFWS 2023). For example, whereas over-collection had not materialized as a specific threat to Ute ladies'-tresses, vegetation succession, losses or reductions in pollinators, and changes in hydrology appeared to be new stressors.

### *Critical Habitat Description*

Critical habitat has not been proposed or designated for Ute ladies'-tresses.

## 2.8 *Winkler cactus*

### *Species Description*

Winkler cactus is a small sub-globose (not quite globe-shaped) cactus. Plants have one or more stems, 1.5 – 6.7 inches tall and 1.0 - 2.0 inches in diameter. Stems contain spirally arranged tubercles (swollen leaf bases; 0.2 – 0.3 inches long) with areoles (small bumps equivalent to buds from which spines and flowers grow) at their tip. The areoles are elliptic and typically densely wooly pubescent with nine to 11 radial spines (located along the margin of the areole) and no central spine. Radial spines 0.06 – 0.16 inches long) are straight or curved but not hooked (Porter et al. 1999; Welsh et al. 2015). Flowers are peach to pink color and urn shaped (0.7 – 0.9 inches long and 0.7 – 1.5 inches in diameter) that appear in the spring (March to May). Fruits are barrel shaped (0.3 – 0.4 inches long), reddish-brown when mature, and contain many shiny, black seeds (Heil 1979; Heil et al. 1981; Welsh et al. 2015).

### *Life History and Population Dynamics*

Winkler cactus plants are long-lived; medium sized plants (0.8 inches in diameter) are likely to be at least 15 years old, while large plants (those reaching 2.0 inches in diameter) may be closer to 40 years old (Hornbeck 2021). Seedling recruitment is low and sporadic and may be positively correlated with warmer temperatures in February and March and infrequent, large rain events (Hornbeck 2017). However, seedling detection is likely low and there may be a delay of several years between seedling recruitment and detection (Hughes 1995). We have no information on seed and seedbank longevity and viability for Winkler cactus, although cacti generally have short-lived seedbanks (Arroyo-Cosultchi et al. 2022). Other *Pediocactus* seeds are reported to survive in the soil for a few years, and seedlings have been reported in the spring and fall (Phillips and Phillips III 1995). Seeds may need a period of cold or hot temperatures followed by moist soils to germinate (Milne 1987; Heil et al. 1981).

The flowering period generally occurs from March to May with fruiting from May to June (Heil 1984). This timeframe varies from year to year based on temperature, moisture, and elevation; plants at lower elevations usually flower at least 5 to 15 days earlier than those at higher elevations (Heil 1984). Plants form flower buds at ground level in the fall that persist until the following spring. These flower buds and subsequent flowers are highly vulnerable to surface disturbance (Heil et al. 1981). Winkler cactus flowers remain open for one to two days and are self-incompatible, which means that pollinators are needed to produce viable seeds (Milne 1987; Tepedino 2000). Pollinators are bees in the Halictidae family, a diverse family of small bees (Tepedino 2000).

Cactus species exhibit modular growth and can gain and lose stems depending on the climate conditions, a favorable adaptation to arid environments (Heil et al. 1981; Hornbeck 2021). Plants can grow larger in stem diameter and number of stems as well as grow smaller (retrogress) by

those same measures. Winkler cactus tends to be a solitary-stemmed cactus that grows larger or smaller in diameter, but it occasionally produces multiple stems (up to 4 stems; Heil 1979; Heil et al. 1981). Overall reproduction is low and reproductive effort is positively correlated with plant size; larger plants produce more flowers and fruits than smaller plants (Hornbeck 2021). The largest plants (over 0.8 inches in diameter) provide the greatest contribution to reproductive output in a population (Hornbeck 2017).

Much of the year, Winkler cactus plants retract (shrink) underground or to the soil surface using contractile roots as protection against the annual cycle of extreme heat, cold, and drought (Clark 1999; Hornbeck 2021). Plants generally retract during the summer and winter and resurface in the spring and fall if moisture is sufficient. Some plants can survive underground for up to two years during drought conditions (Clark and Clark 2008). Despite adaptations to drought conditions, high mortality rates were recorded for adult plants during the drought of 1999-2002 (Clark 2008). This four-year drought was severe compared to past, recorded drought periods over the last century in Utah (Wilkowske et al. 2003).

### *Status, Distribution, and Threats*

We listed Winkler cactus as threatened on September 21, 1998 (63 FR 44587) under the Act due to threats from illegal collection, recreation (specifically off highway vehicle (OHV) use), livestock trampling, and energy and mineral development (oil and gas; uranium, gypsum, and clay mining). A draft recovery plan was published in 2016 but not finalized (USFWS 2016) and an updated biological report was finalized in 2024, along with a five-year review (USFWS 2024a, 2024b)

Winkler cactus has three populations (Hartnet, Notom, and Rock Springs) with 13,959 plants. We identified three population size categories based on the number of plants—small populations have 500 or fewer plants; medium populations have 501–1,000 plants; and large populations have more than 1,000 plants. Based on these categories, Winkler cactus has two large populations (Hartnet and Notom) and one small population (Rock Springs). Our total population count is more than double than what we reported in the 2016 draft recovery plan (5,700 plants) despite the removal of the Blue Bench population because it includes additional plants found on NPS lands in the Hartnet population (Livensperger and Borthwick 2020). Our population counts should be considered conservative numbers erring on the low side of actual plant abundance since seedlings and dormant plants are difficult or impossible to detect during surveys (Shryock et al. 2014)

A recent population viability assessment for Winkler cactus did not identify a minimum viable population size for the species but instead evaluated the species response to various stressors (Hornbeck 2021). In the absence of various stressors (herbivory, livestock, illegal collection), Winkler cactus exhibits stable population growth rates and is highly drought tolerant. The survival of large plants is the primary contributor to population growth due to their higher reproductive output (Hornbeck 2021).

There are two evaluations of population trend based on consistent, long-term monitoring of the Hartnet population on NPS lands (Hornbeck 2017, 2021). The first evaluation relied on a four-

year dataset (2013 to 2016) within an active grazing allotment (October 15 to May 31 for up to 1,141 animal unit months (AUMs)) (USFWS 2018). Over this time-period, moderate and large sized plants exhibited reduced survival and reproduction compared to smaller plants, which resulted in a projected negative population trend for Winkler cactus regardless of whether livestock were present or absent (Hornbeck 2017). The reduced survival and reproduction of larger individuals was an important factor in the declining trend and is not consistent with the species' life history characteristics discussed above (Hughes 1995; Shryock et al. 2014). The study suggested that the population structure in Capitol Reef National Park (CRNP) may have been negatively affected by livestock use prior to the four-year monitoring period and that larger plants appear to be highly sensitive to damage and disturbance. Overall, Winkler cactus population trend was more negatively affected in areas that experienced persistent livestock disturbance than in areas with little to no livestock use because of greater negative effects to the plant survival, growth, and fecundity. These results and suggestions are consistent with an earlier Winkler cactus study that identified a lower probability of survival and reproduction for plants damaged by livestock. The population trend was also influenced by the lack of seedling recruitment, but this is not surprising because recruitment likely occurs over longer time periods. The estimated requirements for a stable Winkler cactus population trend include more than one recruitment event per decade and high survival of moderate and large individuals (Hornbeck 2017). The study recommended additional long-term monitoring to improve the population trend assessment and projections.

The second evaluation of population trend relied on a longer, seven-year dataset (2013 to 2019) at the same location on NPS lands (Hornbeck 2021). Livestock were removed in May 2018 when the allotment was permanently retired from livestock grazing. Livestock trailing is now permitted (two to four days per year) within CRNP between grazing allotments on U.S. Forest Service (USFS) and BLM lands (USFWS 2018; Borthwick and Livensperger 2019). This evaluation included a post-hoc (developed after the fact) control for Winkler cactus using data from undamaged plants during the study period because controlled conditions (livestock exclusion) were not available. The species has a projected stable to increasing population trend following livestock removal in 2018 and the lack of other stressors (herbivory, illegal collection). Livestock trampling resulted in negative effects to plant survival and reproduction, which is consistent with the earlier evaluation discussed above.

Twenty-year projections of population trend indicated that a stable population can be achieved if trampling (by livestock or wild ungulates) affects less than five percent of the population on an annual basis (Hornbeck 2021). Winkler cactus has a high tolerance to drought, but an increase in drought frequency would compound the negative effects of other stressors. Model projections indicate that any stressor, alone or in combination, that results in a negative change to the annual average survival, growth, or reproduction by more than five to six percent would likely result in a negative 10-year population trend and higher extinction risk over 100-years (Hornbeck 2021).

### *Critical Habitat Description*

Critical Habitat has not been proposed or designated for Winkler cactus.

## 2.9 *Wright fishhook cactus*

### *Species Description*

Wright fishhook cactus (*Sclerocactus wrightiae* L. Benson) is named for Dorde Wright Woodruff who discovered Wright fishhook cactus in Emery County in 1961 (Benson 1982). The species is endemic to south-central Utah occurring in scattered clusters in Wayne, Emery, and Sevier counties. Wright fishhook cactus is a small, perennial globose shaped cactus mainly 2.4 to 4.8 inches long and 1.6 to 3.2 inches wide growing as a single plant with a branched taproot (Welsh et al. 2008). If damaged, the cactus may form multiple stems. Spines, both lateral and central, emerge from warty protuberances called tubercles. The large, lower central spine is hooked, a noticeable character that gives the cactus its common name of "fishhook."

The flowers have a diameter of 1.2 to 1.6 inches and are 1.2 to 1.6 inches long, white to cream or pink, and fragrant. Sepaloids (organ that resembles a typical, leaf-like sepal) are green or green tinged with red or brown. Flowering occurs from late April through May and fruits are set in June. Fruits are barrel shaped and borne on the top of the cactus. Seeds are black and small (typically 0.08 inches long and 0.14 inches wide; Heil and Porter 1994). A distinguishing characteristic of Wright fishhook cactus is the presence of magenta filaments with yellow anthers. Combined with the short spine length, round spines, early flowering time, small flower size, these magenta filaments help distinguish this species from similar cacti in the genus (Heil and Porter 1994, Benson 1982).

A complete taxonomic description can be found in *Haseltonia* (Heil and Porter 1994) and Flora of North America (Heil and Porter 2003).

### *Life History and Population Dynamics*

Wright fishhook cactus is a long-lived species that is slow to reach reproductive maturity. Individuals begin flowering around 4 to 5 years old, producing flowers generally less than 50 percent of the time (Kass 2001a, Clark and Clark 2007). The highest reproductive rates are associated with large adult plants (diameter >2.6 inches), which flower between 75 and 100 percent of the time producing a disproportionately large number of seeds (Kass 2001a, Clark and Clark 2007; Hornbeck 2017). Depending on environmental conditions, Wright fishhook cactus is estimated to grow an average diameter of approximately 0.25 inches per year (Clark and Clark 2007) with seedlings growing at a faster rate than adults (Kass 2001a). Because of slow growth rates, individuals with the highest reproductive rates may be at least 18 years old. When present in populations, the survival of large-sized individuals (diameter > 2 inches) is the most important contributor to overall population growth rates (Hornbeck 2017).

Flowering occurs from April through May with fruiting from May to June. The species reproduces sexually but is self-incompatible, requiring cross pollination to produce viable seeds and is pollinated almost exclusively by native ground nesting bees (Tepedino et al., 2023). Nine species of bees from three genera (*Agapostemon*, *Dialictus* and *Lassioglossum*) in the Halictidae family and species from three genera (*Anthophora*, *Diadasia*, and *Eucera*) from the Apidae family are known to visit Wright fishhook cactus (Tepedino et. al., 2023). Outcrossed pollination

is limited by the foraging distance of bees which is strongly correlated to body size (Greenleaf 2007). We do not have foraging distances for the bees that pollinate Wright fishhook cactus; however, the maximum distance reported for the two genera is approximately 0.25 mi (Tepedino 2000).

Recruitment appears to be low and sporadic based on evaluations of the size class distribution of Wright fishhook cactus populations (Clark 2008a; Hornbeck 2017). Seedlings comprised ten percent of the inventoried population between 1999 and 2008. Although it is likely that some seedlings were missed during this inventory effort, the percentage of old adults is likely accurate (Clark 2008a).

### *Status, Distribution, and Threats*

We listed Wright fishhook cactus as endangered under the ESA on October 11, 1979 (44FR 58868). The 1985 recovery plan for the species identified illegal collecting, potential energy development, expanding towns and associated recreational activities, and livestock grazing as threats to the species (USFWS 1985). We published a 90-day finding regarding a petition to delist and initiated a 5-Year Review on August 3, 2005 (70 FR 44544). We determined there was not substantial information to delist Wright fishhook cactus based on population declines and increasing threats (70 FR 44544, August 3, 2005).

The overall range of the species has increased since the publication of the 1985 recovery plan. Survey and inventory efforts have greatly expanded our knowledge of the distribution of the species across its range. We now know of more occupied habitat and in some cases, more continuous populations than at the time of listing. The known range of Wright fishhook cactus extends across approximately 860,000 ac of western Emery County, south-eastern Sevier County, and central Wayne County in Utah.

Wright fishhook cactus occurs primarily on lands managed by the BLM's Price and Richfield Field Offices and within Capital Reef National Park. More than 300 occurrences of Wright fishhook cactus have been documented on BLM and Capital Reef National Park lands. There are 22 known occurrences on lands managed by the BLM's Price Field Office, 256 on lands managed by the Richfield field office, and 63 on Capital Reef National Park lands. The species is also documented on Utah School and Institutional Trust Lands Administration (TLA), and private lands.

Approximately 90 percent of Wright fishhook cactus range occurs within active grazing allotments. Areas where grazing is not permitted include all habitat within Capital Reef National Park, the BLM North Caineville Mesa (2,200 ac), a small section of the Factory Butte Special Recreation Management Area (SRMA) (approximately 1,300 ac), and Goblin Valley State Park. Portions of Goblin Valley State Park are not fenced and may receive livestock use from permitted areas adjacent to the State Park. Trailing has occurred within the Capital Reef National Park section of the Cathedral Allotment since it was retired from grazing in 1999.

The current population estimate for Wright fishhook cactus on federal lands is 14,761 individuals across nine meta-populations (Rooks 2017; USFWS 2011). Accordingly, we have updated our

range-wide population estimate from the previous estimate of 4,500 to 21,000 in 2008, to 14,761 to 21,000 individuals (USFWS 2008, USFWS 2022). Since 2017, six new localities were discovered containing 185 individuals in Capital Reef National Park (Borthwick 2018). Within Capital Reef National Park, inventory efforts between 2011 and 2018 have documented 3,951 live individuals in 63 localities that comprise the Lower South Desert meta-population. These estimates of plant abundance should be considered conservative since mapping efforts were limited to four person-hours per locality and not all cacti were counted. Suitable habitat is widely available in the vicinity of known occurrences of the species throughout its range, much of which has not been surveyed.

### *Threats*

The most recent 5-year review indicates that threats to Wright fishhook cactus are more numerous and more immediate than at the time of the listing (USFWS 2022). These threats include effects from human activities including livestock grazing, OHV use, and illegal collection combined with effects from natural disturbances such as drought and herbivory. As a result, we changed the recovery priority number from 17 to an 11 to indicate the degree of threat to the species has increased from low to moderate.

The most recent study of the effects from livestock grazing to Wright fishhook cactus in Capital Reef National Park found that survival, growth, and fecundity were reduced in areas where cattle were present compared to areas where cattle were absent (Hornbeck 2017). The direction of the predicted population trend for Wright fishhook cactus is dependent on whether livestock disturbance is episodic or persistent. In Wright fishhook cactus habitat with chronic livestock grazing, decreasing population trends are predicted which may lead to localized extirpation.

Conversely, population trends are predicted to be stable in areas that experience episodic or low levels of livestock grazing (Hornbeck 2017). It is important to note that livestock grazing within Capital Reef National Park has been reduced over time with the retirement of the Rock Springs, Cathedral, and Hartnet Allotments. However, as mentioned above 90 percent of Wright fishhook cactus and its habitat can be found in active grazing allotments.

On BLM lands, OHV use was recorded within 68 Wright fishhook localities between 1999 and 2003. These effects have declined over time since the Richfield Field Office restricted OHV use to designated routes in 2008 and implemented closures at the Factory Butte SRMA (BLM 2008a; BLM 2017). One of the original four SRMA OHV play areas remains open to use at Swing Arm City, and Since 2009 two cacti deaths have been attributed to OHV use in unauthorized areas of the SRMA from a single incident (BLM 2017).

Insect and rodent herbivory can be a significant cause of Wright fishhook cactus mortality. Herbivores include the cactus borer beetle, Ord's kangaroo rat, white-tailed antelope ground squirrels, mice, and a recently described snout moth (genus *Rhagea*; Kass 2001a and 2001b; Clark 2009; Borthwick and Livensperger 2018). Negative effects from herbivory may increase under drought and grazed conditions (USFWS 2013) and were identified as the primary cause of mortality and population declines in the Factory Butte SRMA (BLM 2017).

Illegal collection of Wright fishhook cactus is a range-wide stressor that likely continues although the current magnitude of effects from any collection is unknown. Wright fishhook cactus is sought after for cactus collections and Capital Reef National Park has documented signs of scouting for, and poaching of, Wright fishhook individuals as well as illegal advertisements online.

Climate change was not identified as a threat when the species was listed or in the recovery plan. Wright fishhook cactus appears to be highly vulnerable to future climate conditions based on one evaluation that predicted considerable range loss for the species after 2040 (Krause 2010). Wright fishhook cactus was also ranked as “extremely vulnerable” to climate change using a climate vulnerability index and an evaluation of current versus future suitable habitat locations (Still *et al.* 2015). The species predicted vulnerability to future climate conditions using predictive models and the index were based on factors that include the small range of the species, limited dispersal ability, and lack of overlap between current and future areas of suitable habitat (Krause 2010; Still *et al.* 2015).

#### *Critical Habitat Description*

Critical habitat has not been proposed or designated for Wright fishhook cactus.

### **3 ENVIRONMENTAL BASELINE**

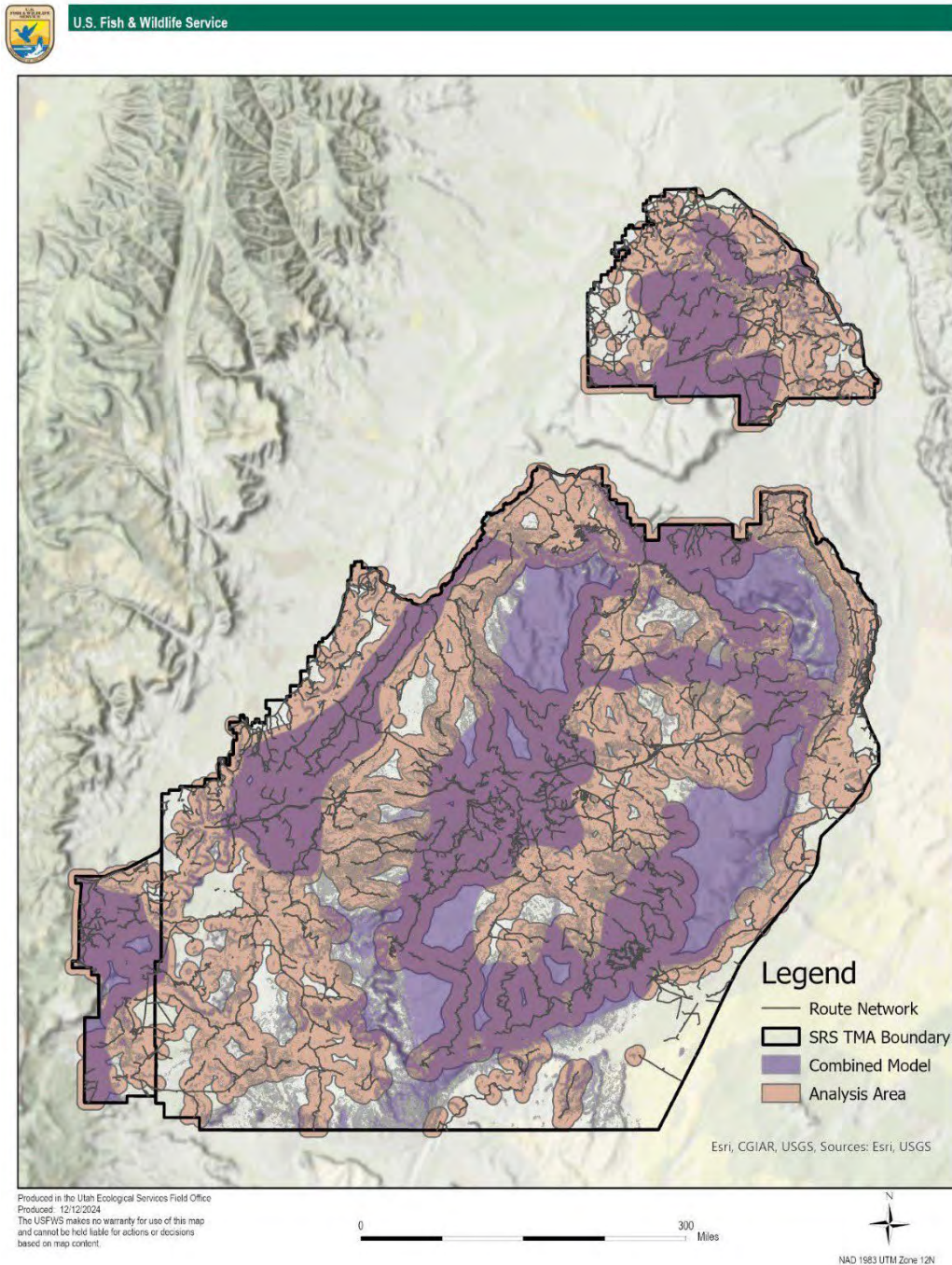
Regulations implementing the Act (50 CFR 402.02) define the environmental baseline as the condition of the listed species or its designated critical habitat in the action area, without the consequences to the listed species or designated critical habitat caused by the proposed action. The environmental baseline includes the past and present effects of all Federal, State, or private actions and other human activities in the action area, the anticipated effects of all proposed Federal projects in the action that have already undergone formal or early section 7 consultation, and the effect of State or private actions which are contemporaneous with the consultation in process. The consequences to listed species or designated critical habitat from ongoing agency activities or existing agency facilities that are not within the agency’s discretion to modify are part of the environmental baseline. This section does not include analysis of effects of the action currently under review in this consultation.

#### *3.1 Status of the Species and Critical Habitat within the Action Area*

##### *Mexican spotted owl*

The action area includes 651,878 acres of Mexican spotted owl habitat in Utah, identified using two habitat models (Willey and Spotskey 1997; Lewis 2014; hereafter combined models) (Table 2). The analysis area covers 997,450 acres and includes 350,250 acres of modeled spotted owl habitat (under either habitat model) within 0.5 miles of roads open and limited under the Project (Figure 4). The combined acreage of the two habitat models within the action area represents less than three percent of spotted owl habitat in Utah. The analysis area is defined as the area where potential impacts on spotted owls could occur from Plan implementation and consists of any roads within or up to 0.5 miles away from the combined models spotted owl habitat. The 0.5-

mile buffer accounts for how far noise from the roads can travel before attenuating to levels that sounds are anticipated to have minimal impact on owls. However, we note that topography and vegetation are likely to decrease noise to a level where we would not anticipate adverse effects at a distance less than 0.5 miles in many parts of the action area, thus the analysis area is likely a conservative estimate of areas where potential effects from noise could occur.



**Figure 4. Mexican spotted owl combined models and analysis area**

There is no designated critical habitat for the species within the action area. The nearest designated critical habitat units, CP-13 and CP-15, are approximately 6.5 mi southwest and 7 mi northeast of the action area, respectively. As a result, critical habitat will not be discussed further in this document due to the distance from the action area.

**Table 2. Mexican spotted owl habitat model acreage within the action area.**

<b>Model</b>	<b>Habitat (ac)</b>
Willey-Spotskey (1997)	572,675
Lewis (2014)	275,736
Models combined	651,878
Combined habitat within the analysis area	350,250

The geological features of the San Rafael Swell and subsequent combined modeled habitat suggest that a substantial portion of the action area provides potential habitat for spotted owl. Habitat within the analysis area is typical of the CP EMU, including steep-walled, rocky canyons within complex canyon systems. These canyons provide nesting, roosting, and foraging areas, with features such as caves and ledges for protecting nest and roost sites. While owls primarily inhabit vertical canyon walls, they also use rims, mesa tops, and canyon bottoms for foraging and dispersal (Willey 1997). Vegetation in these habitats typically includes mixed-conifer, ponderosa pine, pine-oak, pinyon-juniper, and riparian species (USFWS 2012).

The BA described most habitat within the action area as arid with limited vegetation (BLM 2024). However, a review of aerial imagery shows that both mesic (moderately moist) and xeric (dry) habitat types are present. The San Rafael River bisects the analysis area and likely provides pockets of cool microclimates along the river and in tributaries and side canyons. There are also springs and seeps present within the combined modeled habitat, which provide pockets of mesic habitat. Owls have been found to nest annually in mesic habitat types in the Colorado Plateau (Willey and Willey 2010; Hockenbary 2011). Habitat becomes drier away from water sources like the San Rafael River and is presumed to be the predominant habitat type within the analysis area. Xeric habitats historically support more sporadic breeding in the Colorado Plateau than mesic habitats (Willey and Willey 2010; Hockenbary 2011).

There are no known owl sites or PACs within the analysis area. However, there is limited survey history available prior to 2022. While there are no confirmed detections of Mexican spotted owls within the analysis area, there was one recent, unconfirmed observation of a Mexican spotted owl within the analysis area (D. Willey, personal communication, October 22, 2024). The nearest PAC is located approximately 10 miles south of the action area within Capital Reef National Park. Additional PACs are located in Desolation Canyon to the north and east of the action area and to the south of the action area along the Green and Colorado Rivers. Therefore, habitat within the analysis area is likely to support Mexican spotted owls with steep rocky canyons, mesic and xeric areas suitable for nesting and roosting, as well as foraging and dispersal habitat and connectivity between owl populations within the CP EMU.

Because of prior limited knowledge of owl occupancy, the large amount of modeled habitat, and the likelihood for dispersal and/or occupancy, the BLM contracted surveys during 2022 and 2023, which included 91 call points throughout the action area. Each call point is assumed to

provide adequate survey coverage within approximately a 0.5-mile radius of the call point when surveyed consecutively for two years. The 91 call points cover approximately 35,187 ac within the analysis area. Surveyors did not detect Mexican spotted owls during these surveys. Approximately 616,691 ac of combined modeled habitat in the action area has not been surveyed (Table 3).

**Table 3. Estimated number of Mexican spotted owls within the action area in unsurveyed high-quality habitat.**

Habitat description	Habitat (ac)	Unsurveyed habitat (ac)	Estimated number of owls <sup>1</sup> (individuals)
Combined models	651,878	616,691	NA <sup>3</sup>
High-quality <sup>2</sup> habitat	136,807	126,379	26

<sup>1</sup>Estimated number of owls based on assumed density of 0.13 owls/mi<sup>2</sup>

<sup>2</sup>High-quality habitat is defined as areas where the two models overlap and patches less than 2.7 acres were removed.

<sup>3</sup>We did not determine the estimated number of owls for the combined habitat models since this number would vastly overestimate the number of owls within the analysis area. Much of this combined modeled habitat is foraging or dispersal habitat, whereas the high-quality habitat is limited to where the two habitat models agree and is more likely to be representative of breeding and nesting habitat.

The highest densities of Mexican spotted owl across the species' range occur in mixed-conifer forests that experience minimal human disturbance. However, in much of the CP EMU, owls predominantly occur in rocky canyon habitats where they generally select for narrow canyons with a water source, greater absolute humidity, and more vegetation strata (Rinkevich and Gutierrez 1996; Lewis 2014). The density of Mexican spotted owls is generally less than 1.04 owls/mi<sup>2</sup> across the species' range in rocky canyon habitats (mostly between 0.26-0.52 owls/mi<sup>2</sup>) (USFWS 2012).

Zion National Park is near the action area and has similar terrain but higher quality spotted owl habitat. Therefore, we use spotted owl density data from Zion National Park to provide an estimated owl density for the action area. In Zion National Park, the crude density (accounts for all land regardless of habitat quality) of owls was estimated to be 0.052 owls/mi<sup>2</sup> to 0.104 owls/mi<sup>2</sup>, whereas the mean ecological density (takes into account the abundance of individuals in the actual area occupied by a population) was 1.24 owls/mi<sup>2</sup> (Rinkevich and Gutierrez 1996). We assume that the ecological density of Mexican spotted owls within the analysis area to be substantially lower than that of Zion National Park based on the lack of detections in surveyed habitat, more xeric habitat including fewer pockets of ponderosa pine and cooler microclimates compared to Zion National Park. Therefore, we assume the maximum density of spotted owls within high-quality habitat to be 0.13 owls/mi<sup>2</sup>.

To better estimate potential owl occupancy outside surveyed areas within the analysis area, we conducted a desktop habitat analysis. Using the habitat models from Lewis (2014) and Willey and Spotskey (1997), "high-quality" habitat was identified as habitat where the models agreed. Any patch sizes less than 2.47 ac were removed. These areas were removed because it is extremely unlikely areas that small would support enough breeding and foraging habitat for

Mexican spotted owls. The analysis identified 136,807 acres of high-quality habitat within the action area. Of this, 10,428 acres were confirmed to be unoccupied at the time of survey from the 2022 and 2023 surveys. While we only considered high-quality habitat in our desktop analysis, we did not assess whether the high-quality habitat contains microhabitat features or geomorphology that breeding or nesting owls require. Therefore, our analysis likely overestimates habitat for nesting or breeding owls within the action area.

Based on habitat similarities with the nearest occupied PACs and the estimated breeding home range size for Mexican spotted owls in southern Utah (1,347 ac, USFWS 2012), and our assumption of an ecological density of 0.13 owls/mi<sup>2</sup>, we estimate the entirety of the action area could support up to 26 individual owls or 13 breeding pairs (or a combination thereof, [Table 3](#)).

#### *Colorado pikeminnow*

The Action Area contains segments of the Price and San Rafael Rivers. Colorado pikeminnow migrate seasonally into and out of the two rivers for various life stages and have been detected via PIT tags. While no critical habitat is present within the TMA, perennial streams do connect with critical habitat within the Green River, and the nearest critical habitat may be found 20 miles east of the TMA along the Price River.

The largest, most productive, and most robust population of Colorado pikeminnow in the upper Colorado River Basin occurs in the mainstem Green River (combining the lower Green River, Desolation and Gray Canyon, White River, Yampa River, and middle Green River populations). Higher abundance of Colorado pikeminnow juveniles and recruits in the 2006 to 2008 sampling period is attributed to a relatively strong year class of age-0 Colorado pikeminnow produced in the lower Green River in 2000 (Bestgen et al. 2010). Length frequency histograms, especially in the Desolation-Gray Canyon and lower Green River reaches, indicate that abundance of Colorado pikeminnow recruits was much higher in the period from 2006 to 2008, than from 2000 to 2003 (Bestgen et al. 2010).

The importance of the lower Green River Colorado pikeminnow population is evidenced by increased abundance of adult Colorado pikeminnow in the White River and middle Green River through 2008. This phenomenon is almost certainly the result of upstream movement (high transition rates) of large numbers of juvenile and recruit-sized Colorado pikeminnow that originated in downstream reaches of the Green River in 2006 and 2007 (Bestgen et al. 2010). In recent years, Colorado pikeminnow populations have declined and the most recent population estimate in the Green River sub-basin numbers around 2,000 adult pikeminnow (Bestgen et al. 2018).

#### *Barneby reed-mustard*

There are 799,971 ac of potential habitat within the action area (approximately 66 percent of the rangewide potential habitat) and 81,368 ac of potential habitat within 300 ft of a designated open route under the Project (approximately 7.1 percent of rangewide potential habitat). In addition, there are 6 known occurrences of Barneby reed-mustard in the southern portion of the action area

(Sy's Butte/Hidden Splendor) and 2,119 ac of occupied habitat within 300 ft of a designated open route under the Project (approximately 3 percent of all known occupied habitat).

*Jones cycladenia*

There are 58,232 ac of Jones cycladenia potential habitat (approximately 1.2 percent of rangewide potential habitat) in the action area and 4,133 ac of occupied habitat (9.6 percent of all known occupied habitat) within 300 ft of a designated open route under the Project. In addition, there are 52 known occurrences of Jones cycladenia within 300 ft of a designated open route in the eastern portion of the action area. In addition, 36,461 ac (80 percent) of the San Rafael Recovery Unit for Jones cycladenia is found within the action area.

*Last Chance townsendia*

There are approximately 769,609 ac of potential habitat within the action area (41.7 percent of the rangewide potential habitat) total and 74,446 ac of potential habitat within 300 feet of a designated open route (approximately four percent of rangewide potential habitat). There are approximately 39,126 ac of known occupied habitat within the action area (which is approximately 35.6 percent of the known occupied habitat for the species) and 6,442 ac of known occupied habitat within 300 ft of a designated open route (approximately 5.9 percent of the total known occupied habitat for the species rangewide).

*San Rafael cactus*

There are approximately 1,144,628 ac of potential San Rafael cactus habitat within the action area (approximately 87 percent of the rangewide potential San Rafael cactus habitat) and 116,797 ac of potential San Rafael cactus habitat within 300 ft of a designated open route under the Project (approximately 3 percent of the rangewide potential San Rafael cactus habitat). In addition, there are approximately 13,978 San Rafael cactus individuals (approximately 65 percent of the total known individuals rangewide) and 65,725 ac of known occupied San Rafael cactus habitat (approximately 91 percent of the known occupied San Rafael cactus habitat rangewide) within the action area. There are approximately 6,070 San Rafael cactus individuals (approximately 28 percent of the total known individuals rangewide) and 10,281 ac of occupied habitat (approximately 14 percent of known occupied San Rafael cactus habitat rangewide) within 300 ft of a designated open route under the Project.

*Ute ladies'-tresses rangewide*

There are approximately 874 ac of potential Ute ladies'-tresses habitat within the action area (less than 0.01 percent of potential Ute ladies'-tresses habitat range wide) and 132 ac within 300 ft of a designated open route under the Project (less than 0.01 percent of total potential Ute ladies'-tresses habitat rangewide). There is no known occupied habitat for Ute ladies'-tresses within the action area.

*Winkler cactus*

There are approximately 97,242 ac of potential Winkler cactus habitat within the action area (approximately 16 percent of potential Winkler habitat range wide) and 5,911 ac within 300 ft of a designated open route under the Project (less than 1 percent of total potential Winkler cactus habitat rangewide). There is no known occupied habitat for Winkler cactus within the action area.

*Wright fishhook cactus*

There are approximately 401,839 ac of potential Wright fishhook cactus habitat within the action area (approximately 44 percent of the rangewide potential habitat) and 40,025 ac of potential habitat within 300 ft of a designated open route under the Project (approximately 11 percent of rangewide potential habitat). In addition, there are approximately 366,371 ac of known occupied Wright fishhook cactus habitat within the action area and 34,256 ac of occupied habitat within 300 ft a designated open route under the Project.

*3.2 Factors Affecting Listed Species in the Action Area*

*Factors Affecting All Listed Species in the Action Area*

The main factor affecting all listed species in the action area is climate change. Both the Intergovernmental Panel on Climate Change (IPCC) and the U.S. Global Climate Change Research Program (USGCRP) conclude that changes to climatic conditions, such as temperature and precipitation regimes, are occurring and are expected to continue in western North America over the next 100 years (Frankson et al. 2017; Gonzalez et al. 2018). The Southwestern United States (Southwest) is 1.6°F warmer (average annual temperature) since 1901, but there hasn't been a significant change to annual precipitation (Hoerling et al. 2013; Gonzalez et al. 2018). Since 1950, the Southwest was warmer than any comparable period in the last 600 years; however, recent droughts (between 1901 to 2010) were not as severe or as long lasting as those experienced in the last 2,000 years (Hoerling et al. 2013).

Down-scaled climate projections for the Colorado Plateau predict a 10°F increase in average annual temperature by 2100 (Munson et al. 2011). A consensus of 22 models predicts annual temperatures to exceed the 1950 to 1999 range of variability by the 2030s, with spring precipitation declining by 11 to 45 percent by the end of the century (Garfin et al. 2010; Krause et al. 2015). These changes are likely to increase drought frequency, and future severe droughts in the Colorado Plateau could exceed any recently experienced (Seager et al. 2007). These climatic changes are expected to adversely affect all ESA-listed species and their habitats in the Colorado plateau (Gonzalez et al. 2018; 78 FR 61622) including all species considered in this biological opinion.

Anticipated adverse effects from climate change for listed species in the action area include the potential for changes to the availability of all resources that meet species' basic needs for feeding, sheltering, and reproduction, due to changes in atmospheric carbon, temperature, and precipitation and the direct and indirect effects of those changes (Weiskopf et al 2020). Changes

to temperature and precipitation are expected to cause shifts in water and food availability as well as to the amount and distribution of suitable habitat for all species (Garfin et al. 2010; Gonzalez et al. 2018). Climate change may result in increases in the amount and types of invasive species that compete with or predate on listed species. Shifts in seasonal timing due to climate change may result in phenological mismatches with nutritional resources, pollinators, or historical reproductive timing (Grimm et al. 2013; Weiskopf et al 2020).

Climate change is also anticipated to alter fire regimes across the western United States, resulting in greater frequency, magnitude, and intensity of fires, which is likely to negatively affect all species through direct mortality and resource and habitat loss (Gonzalez et al. 2018, Grimm et al. 2013). Droughts and other extreme weather events (floods, freezes, extreme high temperatures, etc.) that may exceed species' normal tolerance ranges are also expected to increase in frequency, magnitude, and intensity. These events can also reduce the availability of necessary resources, lower reproductive success, and cause direct mortality (Gonzalez et al. 2018). There may also be additional direct and indirect effects of climate change to listed species that are as yet unforeseen.

#### *Factors Affecting Mexican spotted owl in the Action Area*

Factors that affect the Mexican spotted owl in the action area include livestock grazing, recreation, roads, noise and disturbance, direct fatalities, climate change (USFWS 2012), and limited prey availability (BLM 2024). The effects of climate change are discussed above in Factors Affecting All Species in the Action Area and briefly summarized below. Fire and logging are typically considered factors affecting Mexican spotted owl in the United States. However, unlike in other portions of its range, fire is not a landscape-scale threat to Mexican spotted owl habitat in the action area and within the CP EMU because the incidence and extent of stand-replacing fires in cliff and canyon habitat is very low (USFWS 2012). Additionally, because of the difficulty in harvesting trees in canyon habitat preferred by Mexican spotted owls in Utah and the lack of active timber harvest within the action area, we do not identify timber harvest as a factor affecting the species within the action area.

#### *Livestock grazing*

Livestock grazing occurs throughout the TMA, including within the spotted owl analysis area, and is associated with increased human presence, motorized vehicle use, noise, surface disturbance, and changes in vegetation. Grazing can alter vegetation structure and composition, affecting plant productivity, forage quality, and habitat diversity (Taylor 1986). These changes influence owl prey species and may affect nesting and foraging success either positively or negatively, depending on site-specific conditions. Livestock grazing is often concentrated in canyon bottoms and riparian areas leading to degradation of riparian and mesic plant communities. These areas are particularly important to spotted owls in rocky canyon habitats in the CP EMU and action area. These impacts are most likely to affect owls where individual owls forage in or adjacent to grazed areas in canyon bottoms or riparian areas within the analysis area. The effects of increased human presence, motorized vehicle use, noise, and surface disturbance on Mexican spotted owls are discussed below and in Section 4.1 Effects of the Action.

### *Recreation*

Recreation and associated road use are likely the most important stressors currently affecting the species within the action area; however, we have limited information regarding known effects to Mexican spotted owl. Recreation ranks as a primary land use within the CP EMU because of high recreation pressure on public lands in the region (USFWS 2012). The five most popular recreation locations within the action area are within the Buckhorn/Wedge and Temple Mountain Recreation Management Zones (i.e., the Wedge Overlook, Buckhorn Draw, Wild Horse Road, Temple Wash/Temple Mountain, and Little Wild Horse Canyon), which account for 41.5 percent of recreation visits to the TMA based on data collected by site-specific vehicle counters (BLM 2024).

The average annual visitation in the action area from 2020 to 2022 was 232,423, with most visitation occurring between March and June, which overlaps with the Mexican spotted owl breeding season (March 1 through August 31), when owls are most susceptible to disturbance. Outdoor recreation as a share of Utah's gross domestic product increased by 3.2 and 3.4 percent in 2022 and 2023, respectively (USBEA 2023; BEA 2024). We assume that outdoor recreation intensity will continue to increase in the action area. The most heavily recreated areas within the TMA occur at mesa tops (i.e., Wedge Overlook and Good Water Rim) and within the canyons on the southern portion of the TMA (i.e., South Temple Wash) with the remaining recreation primarily occurring on motorized routes (D. Truman, personal communication, December 3, 2024). Mesa tops are unlikely to provide Mexican spotted owls with habitat characteristics required for breeding or nesting, however, owls likely use mesa tops within their home ranges for foraging. The Wedge Overlook, Good Water Rim, and South Temple Wash overlap with high-quality Mexican spotted owl habitat and have habitat characteristics required for nesting and breeding owls in some portion of the open/limited routes facilitating access.

A broad range of recreational activities are allowed to occur on BLM lands, often with limited oversight (BLM 2024). Recreation activities in the action area include hiking, camping, hunting, fishing, target shooting, biking, swimming, rafting, canyoneering, and rock climbing (BLM 2024). Recreational activities may affect Mexican spotted owls directly through disturbances caused by human activity (e.g., hiking, shooting, and OHV use at nesting, roosting, or foraging sites; discussed below) or indirectly through alteration of habitats such as damage to vegetation, soil compaction, and illegal trail creation. User-created trails (OHV, hiking, or mountain bike) may alter owl habitat. Camping within foraging territories may result in noise disturbance and reductions in woody debris due to collection for campfires (woody debris is a critical habitat feature that supports prey populations). However, wood gathering may vary throughout the action area due to varying land designations and protections. Target shooting and OHV use may generate loud and disruptive noises. Hiking, climbing, and canyoneering near Mexican spotted owl nesting sites can have negative effects on the species, primarily through disturbance and habitat disruption, potentially impacting breeding success by causing nest abandonment, reduced foraging efficiency, and increased stress levels for the owls due to human presence close to their nests (Swarthout and Stiedl 2003).

The potential for recreation to affect owl presence and recovery is compounded by the terrain, with owls utilizing narrow canyons having less opportunity to move away from human activity.

These stressors vary throughout the action area due to special designations and land protections, including Wilderness Study Areas. Some special designations limit or close areas to OHV-use, thereby protecting or limiting potentially occupied habitat from these stressors.

The following studies show that recreation has the potential to negatively affect Mexican spotted owls depending on noise levels and seasonal use:

- A study of northern spotted owls found a significant negative effect to adult reproductive success (number of young fledged) associated with the noise level of roads (Hayward et al. 2011). While road proximity alone showed no association with the number of young fledged, once proximity and noise were analyzed together, proximity to road noise significantly affected reproductive success. Owls within 328 ft of quiet roads (less than 60 dBA) fledged more young than owls farther from roads (328 to 2625 ft.). In contrast, owls within 328 ft of loud roads (more than 60 dBA) fledged fewer young. For owls within 328 ft. of a road, the association of high noise levels and reduced reproductive success was strong (Hayward et al. 2011). We consider the proximity of proposed routes and proxies for their noise level (their level of use and speed limit) in our evaluation of incidental take below.
- A study of Mexican spotted owls found that owls exposed to hikers sometimes flushed and spent more time vocalizing and less time handling prey and performing maintenance activities than owls not exposed to hikers (Swarthout and Steidl 2001, 2003). The researchers concluded that cumulative disturbance caused by recreational hiking near nests potentially could be detrimental to owls, but likely only where owls occupied canyons receiving use by greater than or equal to 50 hikers per day (Swarthout and Steidl 2003). It is unlikely that the action area receives this level of disturbance, as the TMA receives less visitation than that of nearby National Parks (e.g. Canyonlands and Zion) in southern Utah.
- Studies of Mexican spotted owl tolerance (resilience) to mechanical human disturbance and noise found that owls were fairly resilient to short-duration disturbance caused by overflight of helicopters and fixed-wing aircraft (Delaney et al. 1999b; Johnson and Reynolds 2002) and chainsaw operation more than 197 ft. from roosts (Delaney et al. 1999b). Closer chainsaw operations caused most owls to flush from their perches. While we do not expect these activities to occur in the action area, they indicate resilience of the species to human disturbance.
- The largest known populations of Mexican spotted owls in the Colorado Plateau EMU occur within National Parks (132 owl sites), where some PACs support regular breeding pairs despite being in close proximity to heavily used hiking trails. The TMA receives less visitation than that of nearby National Parks (e.g. Canyonlands and Zion) in southern Utah.

### *Roads*

There are currently 1,429 mi of open and limited routes authorized within the action area, of which 1,313 mi occur within the analysis area (Table 4). However, most of these open and limited routes do not occur in high-quality habitat. While three of the five most popular recreation locations overlap with high-quality habitat, we considered the current level of use and

determined that routes currently receive low to moderate OHV use (BLM 2024). Visitation levels likely reach moderate levels during breeding and nesting season. Additionally, most existing routes in combined modeled and high-quality habitat are two tracks, and OHV speed limits are low.

OHV routes facilitate access to combined modeled habitat with potential foraging, roosting, and nesting owls. Stressors associated with OHV routes include recreation access (discussed above) and habitat fragmentation, which can affect Mexican spotted owl prey species, lead to direct mortality of Mexican spotted owl from vehicle strikes, and generate noise from OHV vehicles. The current density of open and limited routes in owl habitat is 0.00094 mi/ac and 0.0013 mi/ac within the analysis area (Table 4). The direct loss of habitat from roads is insignificant given the density of roads in spotted owl habitat. Habitat fragmentation from current roads may fragment habitat continuity, alter natural movement patterns, and increase disturbance to resident owls (USFWS 2012).

Roads in spotted owl habitat may facilitate the loss of habitat components (e.g., large logs, large snags, hardwoods) as people access fuelwood gathering or cutting areas or riparian areas. Roads and trails adjacent to riparian areas, streams or rivers in the TMA can inhibit hydrological processes that affect proper functioning ecological conditions.

One major road, Interstate 70, bisects the action area going east to west, and estimated noise levels from interstates range from 70 – 80 dBA at 50 ft from the source of the noise (Corbisier 2003). Noise from roads has been documented to impact the fitness of other owl species (BLM 2012). The effects of noise from roads and other disturbances are discussed below.

**Table 4. Density of roads in combined Mexican spotted owl habitat and analysis area for the environmental baseline.**

Designation	Environmental Baseline				
	Total Miles in the TMA	Mexican spotted owl habitat (651,878 ac)		Analysis area (997,450 ac)	
		Roads (mi)	Density (mi/ac)	Roads (mi)	Density (mi/ac)
<b>OHV Open/Limited</b>	1,429	610	.00094	1,313	.0013
<b>OHV Closed</b>	732	311	.00048	655	.00066

### *Noise and disturbance*

Disturbance from ongoing activities within the TMA include elevated noise levels. Mexican spotted owls are sensitive to noise levels above 69 dBA (Delaney et al. 1999a, Pater et al. 2009, USFWS 2012). Noise levels exceeding 69 dBA result in a higher probability that an owl will flush and leave the area. While higher noise levels can result in the flushing of owls, there is

some tolerance of higher noise levels by owls when there is distance between the owls and the source of the noise (Delaney et al. 1999).

Noise, like that produced by OHVs, can broadly affect spotted owl nest-site selection and mask biologically important sounds, such as mating call behavior and predator and prey sounds. Disturbance duration can vary from abrupt and brief (e.g., a single vehicle passing by) to extended disturbance (e.g., high traffic volumes on a busy holiday, or dispersed camping taking place within nesting or foraging habitat, etc.). Accordingly, spotted owl response durations may also range from brief, immediate behavioral responses, such as alerting or flushing, to long-term responses, such as abandoning preferred habitat. When these stressors result in territory displacement, failure to initiate nesting, nest failure, or increased physiological stress, they negatively affect reproductive success of individuals and populations (Steven et al. 2011). Disturbances associated with human presence and noise could result in sub-lethal effects, including elevated stress levels and reduced foraging time (Larson et al. 2016). If persistent, noise and human presence could deter individuals from nesting or result in territory and nest abandonment, thereby reducing reproductive success or increasing juvenile mortality.

Average exhaust noise levels from common OHV models range from 94 to 107 dB (USFS 2018). Therefore, birds can suffer temporary hearing damage from OHVs operating in proximity, especially when multiple vehicles are operating at once. This temporary hearing damage may increase when birds are exposed over long durations.

Aside from noise generated from recreation activities, activities may also result in habitat degradation from surface disturbance, vegetation removal, and vegetation alteration (Monz et al. 2013). Effects to vegetation alteration could occur through trampling of vegetation, clearing vegetation, woodcutting and prevention of seedling germination due to soil compaction; bank erosion; increased incidence of fire; promoting invasion by exotic plant species (which can displace native vegetation utilized for foraging, security and thermal cover, nesting, etc.); promoting increases (subsidies) in predators and scavengers due to food scraps and garbage (ravens, jays, grackles, skunks, squirrels, domestic cats, etc.); loss of hydrologic function in riparian areas from travel route compaction; and noise disturbance. Vegetation disturbances or vegetation removal may adversely affect the availability and quality of prey habitat and abundance. Soil disturbances may increase erosion, adversely affect soil stability, and adversely affect prey habitat. Increased occurrence of invasive plant species may change the vegetation community and alter the habitat for Mexican spotted owl prey species.

#### *Direct fatalities*

Direct fatality from vehicle collisions is unlikely. Isolated incidents of Mexican spotted owls being hit by cars have been documented in other areas of the CP EMU (USFWS 2012); however, we have no evidence of car-related owl fatalities in the action area.

#### *Climate change*

Climatic changes are expected to adversely affect ESA-listed species and their habitats, including Mexican spotted owl (Gonzalez et al. 2018; 78 FR 61622, October 3, 2013). Climate

change is likely to reduce owl distribution rangewide by increasing the prevalence of high-intensity wildland fire and through changes like increased temperature, changes in timing and amounts of precipitation, and related changes in vegetation community over time that reduce the ability of owls to persist in some areas (Wan et al. 2019; Salazar-Borunda et al. 2022). Studies have shown that high-emission scenarios will result in the gradual and continuous loss of suitable bioclimatic space for owls in the CP EMU starting in 2030 (Salazar-Borunda et al., 2022).

While it is likely that OHV use, recreation, and other associated activities are ongoing within the action area, overall recreation use appears to be low to moderate in high-quality habitat based on the current level of road use and access. We discuss the effects of the action as it relates to the Mexican spotted owl below in more detail (see Section 4.1, Effects of the Action).

#### *Factors Affecting Colorado Pikeminnow in the Action Area*

Factors that could affect the Colorado pikeminnow and all fish present within the action area include streamflow regulation and habitat modification, as well as competition with and predation from non-native fishes. Poor land use practices, degraded water quality, and use of pesticides and pollutants may also affect all fishes (USFWS 2022).

Increased motorized vehicle access to trails may result in surface disturbance and increased sedimentation, changes to vegetation, and increased pollutant loading, which can then decrease water quality, increase stream temperature, reduce dissolved oxygen levels, and can reduce the supply of invertebrate food supply for fish. This cascade could alter a specific hydraulic water regime which is required by a particular life stage for each species. The continued presence of livestock grazing, and associated management activities, may result in heightened livestock and human presence, motorized vehicle and equipment use, surface disturbance from damage to stock trails, water use or diversion, increased nutrient loading, changes to water quality, and changes in vegetation. Cattle could increase sedimentation in waterways. Fish habitat within the San Rafael and Price Rivers could be subject to impacts to stream water quality as a result of livestock grazing (USFWS 2022).

There is no critical habitat within the TMA; however, impacts to the tributaries could influence critical habitat present downstream. The use of route networks within the TMA that come within the 100-year floodplain or in direct contact with streams and washes can influence habitat suitability for ESA-listed species downstream of the TMA. The Proposed Action would increase the miles of routes open to OHV use within the TMA. Currently all the evaluated routes exist on the ground and receive use by the public. This Project effort would designate the existing routes as open to OHV use; the proposed Project designations would occur entirely within the existing route footprint so minimal ground disturbance would occur as a result of the Project (BLM 2024). OHV travel across streambeds and washes can increase sediment loading in streams, which can then decrease water quality, increase stream temperature, reduce dissolved oxygen levels, and can reduce the supply of invertebrate food supply for fish. Stream crossings outside of an AOI can potentially cause impacts farther downstream in an AOI for ESA-listed species. Actions that take place up-stream from the action area could make it difficult to distinguish the increased impacts of the Proposed Action from other background influences such as water

depletions. Water depletions and reduction in habitat availability have contributed to the largest challenges for ESA-listed species in persisting in the Green River system (USFWS 2022; 59 FR 13374).

### *Factors Affecting All Listed Plants in the Action Area*

This section discusses factors that are currently affecting all listed plant species in the action area that we do not anticipate will change due to the Project. These include livestock grazing; wild horse and burro activity; and oil, gas, and mineral extraction. Factors currently affecting the species that may change in magnitude, scope, or intensity due to implementation of the Project are discussed in section 4.2 of this biological opinion. Many of the factors in both sections have already been identified in the Status of the Species (section 2) above and may or may not rise to the level of a threat for each individual species.

Livestock grazing can have detrimental impacts on native plants and plant communities in arid ecosystems. Grazing can directly impact individuals and seedbanks through trampling, causing damage to the plant or seed which may result in reduced fitness, reproduction, or mortality. Other effects include changes in vegetation composition and abundance, increased soil erosion and compaction, reduced water infiltration rates, and increased runoff (Gifford and Hawkins 1978; Robinson and Bolen 1989; Waser and Price 1981; Holechek et al. 1998; Loftin et al. 2000), leaving less water available for utilization by ESA-listed plants (Dadkash and Gifford 1980). The ecological effects of grazing include: (1) alteration of species composition of communities, including decreases in density and biomass of individual species, reduction of species richness, and changing community organization; (2) disruption of ecosystem functioning, including interference in nutrient cycling and ecological succession; and (3) alteration of ecosystem structure, including changing vegetation stratification, contributing to soil erosion, and decreasing availability of water to biotic communities (Fleischner 1994). Livestock may also increase the spread of cheatgrass and red brome (DiTomaso 2000), which can lead increased competition and increased fire frequency. As a result, there may be decreased recruitment and reproductive output by ESA-listed plants, and increased plant damage or individual mortality. Wild horse and burro activity have similar effects to ESA-listed plant species as livestock grazing.

Energy and mineral exploration and extraction activities would likely result in similar human- and equipment-related surface disturbances, including mortality of individuals, habitat loss, habitat degradation and fragmentation, increased soil erosion, increased dust generation, reductions in pollinator populations, reductions in plant reproductive potential, reductions in seed bank quantity and quality, and increasing invasive plant occurrences (Brock and Green 2003). Changes in land use can directly alter plant habitats by reducing occupied area, stability, connectivity, and quality, thus negatively affecting the viability of plant populations (Brigham and Schwartz 2003). In addition, the unintentional introduction of petroleum products or other contaminants could result in detrimental impacts to ESA-listed plants (e.g., toxicity) or indirectly (e.g., mortality of pollinators).

### *Factors Affecting Ute ladies'-tresses*

Ute ladies-tresses is affected by all the same factors as other plants in the action area but is also affected by any existing activities that cause changes to surface and shallow groundwater hydrology in habitat or upstream of habitat, such as changes to flows and increased sedimentation (USFWS 2023).

## **4 EFFECTS OF THE ACTION**

In accordance with 50 CFR 402.02, effects of the action are all consequences to listed species or critical habitat that are caused by the Proposed Action, including the consequences of other activities caused by the Proposed Action. A consequence is caused by the Proposed Action if it would not occur but for the Proposed Action, and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action (see 50 CFR 402.17).

Effects of the action are a reasonable prediction of the likely reaction of, and biological effect to, individuals of a species to the environmental changes brought about by implementation of the Proposed Action, and not an exploration of the alternatives. As with any prediction of a species' response to environmental effects, there are many uncertainties associated with it. These predictions must be reasoned and informed by science (where available). However, because scientific literature reports the results of experiments and purposefully restricts findings to the conditions and circumstances of the study, conclusions can only be used to inform a predicted result from a future proposed action and cannot determine any outcomes with certainty. Therefore, additional information from observations on other species, other environments, and professional judgment from biologists familiar with the species also influence the reasoned prediction.

### *4.1 Mexican spotted owl*

This section evaluates the anticipated effects of the proposed action on the Mexican spotted owl and its habitat. For additional context on existing threats and factors affecting the species, refer to Sections 2 and 3.2. Under the proposed action, Mexican spotted owls and their habitat are likely to continue facing disturbances related to OHV use and associated recreational activities, habitat fragmentation from route networks, and habitat degradation due to surface disturbance, vegetation removal, and alterations.

The proposed action would increase the miles of open and limited routes within the combined modeled Mexican spotted owl (MSO) habitat within the analysis area (Table 5). Specifically, the designation of 1,922 mi of routes as open and limited within the spotted owl habitat analysis area (Table 5) reflects an increase of 609 mi. Despite this increase, the overall road density within the analysis area would rise only slightly from 0.0013 mi/ac under the environmental baseline to 0.0019 mi/ac under the proposed action (Table 5). The density of open and limited routes in combined habitat would increase from 0.00094 to 0.0014 mi/ac. This minor increase signifies the relatively dispersed nature of the route network across the broader analysis area.

**Table 5. Density of proposed routes in Mexican spotted owl habitat and the analysis area**

Designation	Proposed Action Alt D				
	Total Miles in the TMA	Combined habitat (651,878 ac)		Analysis Area (997,450 ac)	
		Roads (mi)	Density (mi/ac)	Roads (mi)	Density (mi/ac)
<b>OHV Open/Limited</b>	2108	895	0.0014	1,922	0.0019
<b>OHV Closed</b>	53	26	0.000040	47	0.000047

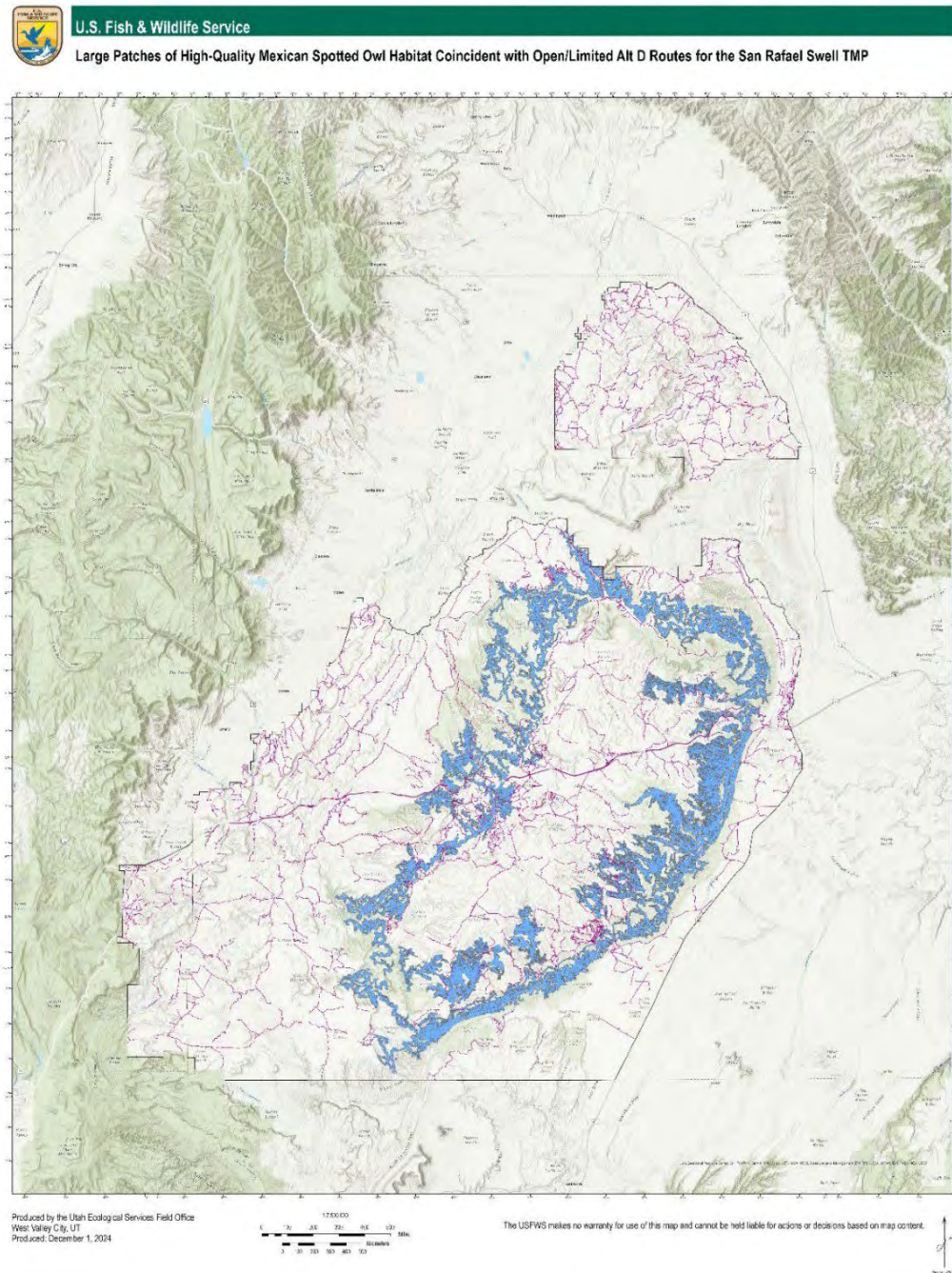
We also evaluated the effects of the proposed action on high-quality habitat, where Mexican spotted owls are most likely to occur. The density of open and limited roads in high-quality habitat (0.00040 mi/ac, Table 6) is considerably lower compared to the broader analysis area (0.0019 mi/ac, Table 5). Notably, most open and limited routes are located outside high-quality habitat (Figure 5). Therefore, while the proposed action may contribute to habitat fragmentation, the effects of habitat fragmentation is expected to be minor, as the increase in routes is primarily outside of high-quality areas. We describe the effects of habitat fragmentation from roads on spotted owls in Section 3.2

**Table 6. Density of proposed routes in high-quality Mexican spotted owl habitat and the analysis area**

Designation	Proposed Action Alt D – High-Quality Habitat			
	Total Miles in the TMA	High-quality Mexican spotted owl habitat in the action area		
		Roads (mi)	Acres	Density (mi/ac)
<b>OHV Open/Limited</b>	2108	55	136,807	0.00040
<b>OHV Closed</b>	53	0.65	136,807	0.0000048

The primary anticipated effects on Mexican spotted owls under the proposed action would occur from recreation and OHV use. As described in Section 3.2, the presence of roads facilitates access to recreation areas, contributing to increased human activity and noise. Recreation intensity is expected to increase throughout the life of the plan, particularly in areas containing high-quality habitat. Three of the most popular recreation areas overlap with high-quality habitat, attracting approximately 60 percent of annual visitation (D. Truman, personal communication, December 3, 2024).

For example, the Wedge Overlook receives over 40,000 visitors annually; however, most recreation there is concentrated on canyon rims and mesa tops, where Mexican spotted owls are more likely to forage rather than nest. Squeeze Canyon, south of Interstate 70, contains high-quality habitat and is a popular site for climbing and non-motorized recreation, especially during the spring and fall seasons.



**Figure 5. Mexican spotted owl high-quality habitat with open/limited routes under the proposed action.**

Recreational activities such as hiking, climbing, and canyoneering near nesting sites may disrupt owls or their habitats. This disturbance may reduce breeding success due to nest abandonment, decreased foraging efficiency, and increased stress levels (Swarthout and Stiedl 2003). Recreation-related activity is expected to increase over the life of the plan, potentially affecting individual owls and leading to greater habitat disturbance.

Additional effects from the proposed action could also include direct mortality from collisions with OHVs, recreational shooting that results in deliberate targeting of animals, or off-trail travel (by foot, OHV, or other means) that results in alteration or destruction of foraging or nesting habitats. Travel routes near sensitive ecological areas, such as steep canyons or riparian habitats present particular concerns for the owls.

Plan implementation activities that could impact spotted owls and their habitats involve the installation of new signs, road maintenance (such as grading and installing water control structures, etc.), route decommissioning or reclamation (including ripping the ground and planting seed, grading, recontouring), as well as installing fencing or barriers. Ground disturbance and habitat loss from sign installations would be temporary, as these areas are likely to revegetate. Seeding and planting on closed routes could accelerate reclamation and help to reestablish habitat. The installation of signs, barriers, and other permanent structures outside of existing roadway prisms would result in a minor (and potentially discountable) loss of habitat.

Overall, designated travel routes are anticipated to increase human presence, equipment use, and vegetation disturbance within Mexican spotted owl habitat. These stressors could negatively affect owl behavior, including nesting, foraging, and breeding activities, and reduce prey availability through habitat degradation. Potential consequences include lower nest initiation rates, reduced nesting success, and decreased fitness for adults and owlets.

Based on best available information on habitat quality and survey data, the expected densities of Mexican spotted owl within the action area are projected to remain low. As discussed in Section 3.1, we estimate the high-quality habitat in the analysis area could support a maximum of 26 individual owls or 13 breeding pairs, assuming a density of 0.13 owls/mi<sup>2</sup> in high-quality habitat (Table 3). However, since most proposed routes are outside of high-quality habitat, only 55 miles directly intersect these higher-quality sites (Table 6).

Potential adverse effects on Mexican spotted owls are most likely to occur within a 0.5-mile buffer of these designated routes within high-quality habitat. This 0.5-mile buffer surrounding high-quality habitat encompasses approximately 34,491 ac (53.9 mi<sup>2</sup>). Given the projected density of 0.13 owls mi<sup>2</sup> within this buffer, this area could support up to 7 individual owls, 3 breeding pairs, or any combination thereof (Table 7).

**Table 7. Estimated area and number of Mexican spotted owls.**

Area of interest	Acres	Area (mi <sup>2</sup> )	Estimated number of owls (individuals)
High-quality habitat	126,379	197.5	26
Open/limited routes buffered by ½ mile in high-quality habitat	34,491	53.9	7

Spotted owls potentially occupying this area are not expected to be affected by the proposed action equally or all at the same time. Negative effects to owls are more likely during biologically sensitive periods such as territory establishment, breeding, and nesting. Generally, we anticipate negative effects to spotted owls to be from ongoing or increased access to recreation, human presence, and noise generated from OHV use or facilitated access to

potentially occupied high-quality spotted owl habitat. Given the expected low overall impacts, we assume that one owl site (two adult individuals and one nest) may be affected annually throughout the life of the Plan.

#### 4.2 *Effects to the Colorado Pikeminnow*

Increasing the number of open routes for OHV and continued livestock grazing and traverse within the 100-year floodplain and riverine habitats may in turn increase sediment loading in streams, alter vegetation, reduce in water quality, reduce dissolved oxygen levels, reduce food supply, and alter a specific hydraulic regime required by particular life stage. The effects of these factors on the species are the same as those discussed in section 3.2, Factors Affecting Colorado Pikeminnow in the Action Area.

#### 4.3 *Effects Common to All Listed Plants*

This section discusses effects to listed plants anticipated to change as a result of the proposed action. For other threats or factors affecting listed plants see sections 2 and 3.2. Increased recreational use of the travel route network due to the Project is likely to affect ESA-listed plants through multiple pathways. On and off-trail OHV travel may directly affect individual plants and populations through crushing, root compaction, mortality, reduced reproduction, burying of seeds, and reduced recruitment. On- and off-trail OHV travel may degrade suitable habitat of listed plants through soil compaction, erosion, habitat fragmentation, spread of noxious weeds, hydrologic changes, and destruction of soil biocrusts (Ouren et al. 2007).

Roads and trails also contribute to nonnative plant invasions via vehicle transport of weeds and soil disturbances caused by OHV use and road maintenance activities (Forman and Alexander 1998; Gelbard and Belnap 2003). Establishment and spread of weeds can increase competition for water, space, and nutrients, resulting in decreased reproductive success for ESA-listed plants. Many weeds are not limited to roadsides, but also encroach into surrounding habitats (Forman and Alexander 1998; Gelbard and Belnap 2003).

Unpaved roads, trails, and areas with bare soil surfaces are large sources fugitive dust. Accumulation of dust on listed plants in or near surface disturbing activities can affect plant growth by inhibiting photosynthesis and by reducing plant density and plant diversity. Dust accumulation within nearby habitat can negatively affect the growth and physiology of listed plants (Eller 1977; Spatt and Miller 1981; Thompson et al. 1984; Farmer 1993; Sharifi et al. 1997; Trombulak and Frissell 2000; Hobbs 2001). The distance from a road at which dust can affect vegetation varies (Everett 1980; Spatt and Miller 1981; McCrea 1984; Santelmann and Gorham 1988; Myers-Smith et al. 2006), but negative effects to plant growth and reproduction may occur up to 300 ft away from dust sources during the growing and flowering season (Environmental Protection Agency (EPA) 1995; Veranth et al. 2003; Etyemezian et al. 2004; Padgett et al. 2007; Wijayratne et al. 2009; Lewis 2013, 2016; Waser 2017).

Habitat fragmentation associated with roads and trails can affect listed plants. Increased habitat fragmentation and reduced habitat connectivity negatively affects plant density, genetic variability, and population viability (Gilpin and Soule 1986; Mustajarvi et al. 2001) and has the potential to exert a cascading effect through a plant community by modifying plant-pollinator

interactions and exacerbating edge-effects (Ellstrand and Elam 1993; Young et al. 1999; Debinski and Holt 2000; Mustajarvi et al. 2001).

Other recreation activities in the action area may include hiking, camping, hunting, fishing, target shooting, biking, swimming, rafting, canyoneering, and rock climbing. These recreational activities may similarly result in trampling or crushing of individuals; increased soil disturbance, erosion, and fugitive dust generation; removal, degradation, or alteration of suitable and occupied habitat; reduced seed banks; reduced pollinator visitation; and increased occurrence of weeds (Harper and Van Buren 1998; Ouren et al. 2007; Roth 2012; Adams et al. 1982; Goefit and Alder 2001; White et al. 2006). As a result, there may be decreased recruitment and reproductive output, and increased plant damage or individual mortality.

Recreational activities, particularly camping, OHV use, and hunting, may increase the risk of wildfire either through intentional fires escaping containment or unintentional sparks from vehicles or firearms (Jenkins et al. 2023; Hu et al. 2024). An increase in human-caused wildfires may be exacerbated by climate change, causing fires to be more severe and widespread (McKenzie et al. 2004). An altered fire regime may result in direct mortality or suppression of reproduction and recruitment for multiple year to listed plants in desert climates (Horn et al. 2015).

All travel routes in the TMA already exist on the landscape. The OHV-closed designations will close a small subset of the existing travel routes, directing OHV use to less-sensitive environments. Any route closures in or near ESA-listed plant habitat (potential, suitable, and occupied) would be beneficial over the long-term by reducing recreational use and the associated negative effects to plants and habitats mentioned above.

The proposed action also provides structured opportunities for habitat management that could improve or degrade conditions for ESA-listed plants. Such activities include installing new signs, road maintenance (grading, installing water control structures, surfacing, etc.), route decommissioning or reclamation (including ripping the ground and planting seed, grading, recontouring), installing fencing or barriers, or mulching on closed routes. Some of these activities may extend into nearby previously undisturbed areas. As with vehicular use, new ground disturbance may result in dust on plants, which would affect plant health and vigor. In addition, these activities may also affect plant-pollinator interactions, decreasing recruitment and reproductive output. Disturbed areas may revegetate with weeds that would compete with existing plants attempting to recolonize those areas. Installation of signs, barriers, and other permanent structures inside of existing roadway prisms would result in a minor (discountable) loss of plant habitat.

For a list of applicant-committed conservation measures designed to reduce these effects, see Section 1.2.

#### *4.3.1.1 Effects to Ute Ladies'-tresses*

In addition to the effects common to all federally listed plants described above, Ute ladies'-tresses and its habitat are also vulnerable to disturbances from OHV use affecting the hydrology of streams, springs, and seeps. OHV use can affect hydrology through direct disturbance of water systems or by altering sedimentation loading. Potential changes to hydrology may affect water flow, or surface or groundwater availability as compared to current conditions (Fertig et al. 2005). Hydrologic modification may result in permanent loss of Ute ladies'-tresses individuals and habitat. Decreases in groundwater and stream flows can render habitat too dry and decreases in the frequency and magnitude of floods can both decrease water availability and fail to maintain habitat in an appropriate successional stage. Increases in groundwater and stream flows can cause sites to become too saturated to support Ute ladies'-tresses. High flows and increased frequency and magnitude of flooding events can also destroy habitat and wash away individuals (Fertig et al. 2005).

## **5 CUMULATIVE EFFECTS**

Cumulative effects are those “effects of future State or private activities, not involving federal activities, that are reasonably certain to occur within the action area” (50 CFR 402.02).

### *5.1 Cumulative Effects to Mexican spotted owl*

Cumulative effects include the effects of future State, Tribal, local, or private actions that are reasonably certain to occur in the action area considered in this BO. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to Section 7 of the Act.

Cumulative effects to the federally listed species under the Project would include, but are not limited to, the following broad types of effects:

- Increased recreational and economic use of non-federal lands within the action area as a result of travel access.
- Changes in land use patterns or practices that adversely affect a species' occupied, suitable, or critical habitat, including encroachment of human use and/or development into those habitats; and
- Management actions by some, or all, of the following groups, on lands adjoining the BLM administered lands:
  - State of Utah
  - County governments in Utah
  - Local governments in Utah
  - Private landholders in Utah

Potential habitat for the Mexican spotted owl exists in the TMA. The TMA is surrounded by a checkerboard pattern of land ownership including Federal, State, and private landowners. The species is susceptible to effects from activities on State and private lands. Many of these

activities, such as livestock grazing, oil and gas exploration and development, human population expansion and associated infrastructure (increased trails and roads) development, research, and recreation activities (including OHV use and any activities that increase human presence), are expected to continue on State and private lands within the range of the Mexican spotted owl. These activities will continue to affect productivity with disturbances to breeding, nesting, and foraging behaviors and further fragmenting habitat of prey populations.

### 5.2 *Cumulative Effects to Colorado pikeminnow*

Declines in the abundance or range of ESA listed Colorado pikeminnow and its Critical Habitat are attributed to various human activities on federal, state, and private lands, such as the following:

- human population expansion and associated infrastructure development;
- water retention, diversion, or dewatering of springs, wetlands, or streams;
- recreation, including off-road vehicle activity; and
- introductions of nonnative plants, wildlife, or fish or other aquatic species, which can alter native habitats, out-compete, or prey upon native species.

These planned activities under the Project could contribute to cumulative effects to the species within the Project action area.

Cumulative effects to Colorado pikeminnow include the following types of effects:

- changes in land use patterns that further fragment, modify, or destroy potential spawning sites, breeding sites, occupied habitat and designated critical habitat;
- shoreline recreational activities and encroachment of human development that remove upland or riparian/wetland vegetation and potentially degrade water quality;
- competition with, and predation by, nonnative fish species introduced by anglers or other sources; and
- additional water depletions reducing habitat quality and quantity.

The Recovery Program has implemented various actions to offset many of the impacts associated with these types of projects. Such actions include securing instream flows, improving fish passage around fish barriers, reducing entrainment from diversions, removing nonnative fishes, and stocking of razorback sucker and bonytail chub to increase populations. We expect that the implementation of Recovery Program actions will continue to offset adverse effects to Colorado River fishes associated with these types of projects.

### 5.3 *Cumulative Effects to All Listed Plants*

Cumulative effects to all federally listed plant species in the action area would include, but are not limited to, the following:

- Increased recreational and economic use of the area as a result of increased travel access.

- Changes in land use patterns or practices that adversely affect a species' occupied and suitable habitat, including encroachment of human development into those habitats.
- Management actions by some, or all, of the following groups, on lands adjoining the action area boundary:
  - State of Utah
  - County governments in Utah
  - Local governments in Utah
  - Private landholders in Utah

For listed plants, potential habitat (cumulatively across all seven species) spans most of the action area, representing a checkerboard of land ownership including Federal, State, and private landowners. These species are susceptible to effects from activities on non-Federal lands. Many of these activities, such as livestock grazing, oil and gas exploration and development, human population expansion and associated infrastructure (increased trails and roads) development, research, and recreation activities (including OHV use and any activities that increase human presence), are expected to continue on non-Federal lands within these species' ranges. All these activities have the potential to affect the federally listed plant species by increasing mortalities, injuring plants, and further adversely effecting occupied and suitable habitat.

## **6 CONCLUSION**

After reviewing the current status of the Mexican spotted owl, Colorado pikeminnow and the seven listed plants covered in this BO, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is our biological opinion that the Plan, as proposed, is not likely to jeopardize the continued existence of Mexican spotted owl, Colorado pikeminnow, Barneby reed-mustard, Jones cycladenia, Last Chance townsendia, San Rafael cactus, Ute ladies'-tresses, Winkler cactus, and Wright fishhook cactus. We base our conclusion on the following information:

1. Applicant committed conservation measures will apply to all routes designated in this TMP, including those mentioned in Section 1.2 of this document, conservation measures from the 2003 San Rafael Route Designation Plan and the 2008 Price and Richfield Field Offices Resource Management Plans.
2. All site-specific projects under this TMP would be subject to additional consultation requirements under section 7 of the ESA, including any route improvements more significant than routine maintenance necessary to keep the routes in their current conditions.
3. All of the routes in the TMP already exist in the landscape and are used in some capacity, even if they have not been officially designated by the BLM. No new route construction will occur as part of this plan.
4. "OHV Closed" designations will close a subset of the existing travel routes, some of which occur near or within occupied ESA-listed species habitat, and will thus reduce

impacts in some regions of the TMA.

#### 6.1 *Mexican spotted owl*

We estimate that the proposed action will affect approximately 651,878 ac of combined modeled habitat, which is less than 3 percent of all modeled suitable habitat in Utah and 34,491 ac of high-quality habitat. There is no designated critical habitat in the TMA.

We anticipate the proposed action will result in the incidental take in the form of harass of two adult Mexican spotted owls and in the form of harm of one Mexican spotted owl nest within the action area per year throughout the duration of the proposed action (Section 7.1 Amount or Extent of Take Anticipated). This represents less than one percent of the CP EMU population (206 documented owl sites) and of the total range-wide population (more than 1,324 sites) (USFWS 2012). Therefore, the proposed action is not likely to jeopardize the continued existence of Mexican spotted owl.

#### 6.2 *Colorado pikeminnow*

We estimate that the proposed action will affect approximately 10,536 ac of suitable habitat for Colorado Pikeminnow within the Price and San Rafael Rivers. While increases to low water crossings open to OHV on the Price River could affect, and are likely to adversely affect the Colorado pikeminnow through sedimentation and the potential for crushing, these fishes are known to occur seasonally within the area and are not long-term residents of these streams.

Therefore, any effects from the implementation of the proposed action will not result in jeopardy to Colorado pikeminnow.

#### 6.3 *Barneby reed-mustard*

We estimate that the proposed action will affect approximately 80,091 ac of Barneby reed-mustard habitat, which results in approximately 7 percent of range-wide potential habitat. The proposed action will also affect 6 known occurrences. However, the proposed route designations will occur entirely within the existing roadway footprint and no new ground disturbance will occur as a result of the proposed action. All site-specific projects designed under the proposed action would be subject to consultation requirements under section 7 of the ESA. Projects or activities not covered in this BO will be evaluated in the future for effects to ESA-listed plants, including Barneby reed-mustard.

Therefore, any effects from the implementation of the proposed action will not result in jeopardy to Barneby reed-mustard.

#### 6.4 *Jones cycladenia*

We estimate that the proposed action will affect approximately 58,232 ac of Jones cycladenia habitat, which results in less than 2 percent of range-wide potential habitat. The proposed action will also affect 52 known occurrences within the San Rafael Recovery Unit. However, the

proposed route designations would occur entirely within the existing roadway footprint and no new ground disturbance would occur as a result of the proposed action. All site-specific projects designed under the proposed action would be subject to consultation requirements under section 7 of the ESA. Projects or activities not covered in this BO will be evaluated in the future for effects to ESA-listed plants, including Jones cycladenia.

Therefore, any effects from the implementation of the proposed action will not result in jeopardy to Jones cycladenia.

#### 6.5 *Last Chance townsendia*

We estimate that the proposed action will affect approximately 74,446 ac of Last Chance townsendia in the action area, which results in less than four percent of the range-wide potential habitat. Approximately 17.6 percent of the known occupied habitat is within the action area. However, the proposed route designations would occur entirely within the existing roadway footprint and no new ground disturbance would occur as a result of the proposed action. All site-specific projects designed under the proposed action would be subject to consultation requirements under section 7 of the ESA. Projects or activities not covered in this BO will be evaluated in the future for effects to ESA-listed plants, including Last Chance townsendia.

Therefore, any effects from the implementation of the proposed action will not result in jeopardy to Last Chance townsendia.

#### 6.6 *San Rafael cactus*

We estimate that the proposed action will affect approximately 116,797 ac of San Rafael cactus potential habitat, which accounts for approximately 3 percent of range-wide potential habitat. It will also affect approximately 10,281 ac of occupied habitat, which accounts for approximately 14 percent of known occupied habitat for San Rafael cactus, and 6,070 San Rafael cactus individuals, which accounts for approximately 28 percent of the total known individuals rangewide. However, the proposed route designations would occur entirely within the existing roadway footprint and no new ground disturbance would occur as a result of the proposed action. All site-specific projects designed under the proposed action would be subject to consultation requirements under section 7 of the ESA. Projects or activities not covered in this BO will be evaluated in the future for effects to ESA-listed plants, including San Rafael cactus.

Therefore, any effects from the implementation of the proposed action will not result in jeopardy to San Rafael cactus.

#### 6.7 *Ute ladies'-tresses*

We estimate that the proposed action will affect approximately 132 ac of Ute ladies' tresses cactus potential habitat, which is less than 0.01 percent of range-wide potential habitat. Potential habitat in the action area is limited to riparian corridors and open meadow wetlands. However, the proposed route designations would occur entirely within the existing roadway footprint and no new ground disturbance would occur as a result of the proposed action. All site-specific

projects designed under the proposed action would be subject to consultation requirements under section 7 of the ESA. Projects or activities not covered in this BO will be evaluated in the future for effects to ESA-listed plants, including Ute ladies'-tresses.

Therefore, any effects from the implementation of the proposed action will not result in jeopardy to Ute ladies'-tresses.

#### 6.8 *Winkler cactus*

We estimate that the proposed action will affect approximately 5,911 ac of Winkler cactus potential habitat, which results in less than one percent of range-wide potential habitat. In addition, there is no known occupied habitat for Winkler cactus within the action area. The proposed route designations would occur entirely within the existing roadway footprint and no new ground disturbance would occur as a result of the proposed action. All site-specific projects designed under the proposed action would be subject to consultation requirements under section 7 of the ESA. Projects or activities not covered in this BO will be evaluated in the future for effects to ESA-listed plants, including Winkler cactus.

Therefore, any effects from the implementation of the proposed action will not result in jeopardy to Winkler cactus.

#### 6.9 *Wright fishhook cactus*

We estimate that the proposed action will affect approximately 40,025 ac of Wright fishhook cactus potential habitat, which results in less than four percent of range-wide potential habitat. The proposed action will also affect 600 known occurrences (less than 5 percent of all known individuals). However, the proposed route designations would occur entirely within the existing roadway footprint and no new ground disturbance would occur as a result of the proposed action. All site-specific projects designed under the proposed action would be subject to consultation requirements under section 7 of the ESA. Projects or activities not covered in this BO will be evaluated in the future for effects to ESA-listed plants, including Wright fishhook cactus.

Therefore, any effects from the implementation of the proposed action will not result in jeopardy to Wright fishhook cactus.

## 7 INCIDENTAL TAKE STATEMENT

Section 9 and Federal regulations pursuant to section 4(d) of the Act prohibit the take of listed species without special exemption. "Take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. "Harm" is further defined (50 CFR 17.3) to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. "Harass" is defined (50 CFR 17.3) as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. "Incidental take" is defined as take that is incidental to, and not the purpose

of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

### 7.1 *Mexican Spotted Owl*

#### *Amount or Extent of Take Anticipated*

The action area includes 651,878 acres of Mexican spotted owl habitat in Utah, identified using two habitat models (Table 2, Willey and Spotskey 1997; Lewis 2014). When adding any roads under the proposed action occurring within 0.5 miles of the acres identified as potential Mexican spotted owl habitat from either habitat model in the action area, the analysis area covers 997,450 acres and includes 350,250 acres of modeled spotted owl habitat (under either habitat model) within 0.5 miles of roads open and limited under the Project. The 0.5-mile buffer accounts for how far noise from the roads can travel before attenuating to levels that have minimal impact on the owls (Delaney et al. 1999). The combined acreage of the two habitat models within the action area represents less than three percent of spotted owl habitat in Utah. Since survey efforts have not detected Mexican spotted owls in the action area, we further determined habitats most likely to support Mexican spotted owls in the action area were areas where both owl habitat models overlap. Using the habitat models from Lewis (2014) and Willey and Spotskey (1997), “high-quality” habitat was identified as habitat where the models agreed. Any patch sizes less than 2.47 ac were removed. These areas were removed because it is extremely unlikely areas that small would support enough breeding and foraging habitat for Mexican spotted owls. Based on this, the analysis identified 136,807 acres of high-quality habitat within the action area. Of this, 10,428 acres were confirmed to be unoccupied at the time of survey from 2022 and 2023 surveys.

Based on best available information on habitat quality and survey data, Mexican spotted owl densities within the action area are expected to remain low. As discussed in Section 3.1, we estimate the action area could support up to 26 individual owls or 13 breeding pairs, assuming a density of 0.13 owls/mi<sup>2</sup> in high-quality habitat (Table 3). Site-specific knowledge within the Plan area indicates the majority of habitat within the analysis area is xeric (BLM 2024), and occupancy by Mexican spotted owls is unlikely to be this high or consistent annually (Willey and Willey 2010; Hockenbary 2011). Additionally, negative effects from habitat fragmentation are not expected from baseline conditions from the designation of additional open and limited routes due to the overall low density of routes in spotted owl habitat.

Adverse effects are most likely to occur within a 0.5-mile buffer of these proposed designated routes within high-quality habitat, encompassing approximately 34,491 ac. This area could support up to 7 individual owls or 3 pairs, or any combination thereof, based on a density of 0.13 owls/mi<sup>2</sup> (Table 7). Therefore, we primarily considered the effects of designated routes and Plan implementation activities on owls and high-quality habitat within 0.5 miles of open/limited routes. The majority of proposed routes are outside of high-quality habitat, and only 55 miles of open/limited routes directly intersect such habitat (Table 6).

We anticipate that the continued authorization of existing routes, along with the addition of open/limited routes in the action area, will either increase or maintain current usage levels in high-quality habitat while also leading to an increase in recreational activity throughout the life of the Plan. Based on recreation data, we expect an overall rise in recreation, particularly in areas of potentially occupied high-quality habitat within the action area. Route use varies throughout the Plan area; however, most routes that pass through high-quality habitat consist of dirt roads that receive limited maintenance and require high-clearance vehicles. Due to poor road conditions, these roads are typically traversed at low speeds. While we expect minimal effects in areas with low route use and noise levels within modeled habitat in the action area, recreational use and current route activities are likely to adversely affect individual owls. This could lead to incidental take in the form of harm to the owls.

Noise levels and recreation activity resulting from the proposed action, whether remaining at current levels or increasing, could lead to incidental take of Mexican spotted owls in the action area. Specifically, heightened noise (>69 dBA) and recreational activities may deter nesting, displace owls from their territories, or lead to nest abandonment, which could result in juvenile mortality. However, we expect the likelihood of direct effects, such as vehicle strikes to be extremely low.

Given the low likelihood of direct effects, the low to moderate use of routes within high-quality habitat, and the expected low annual occupancy within this area, we anticipate that most of the effects of the action will be insignificant or discountable. However, we cannot discount that noise effects from OHV and recreation use may cause owls to forego breeding or abandon nests in some areas. Therefore, we estimate that the Project will result in the incidental take in the form of harassment of up to two individual adult Mexican spotted owls and in the form of harm of one Mexican spotted owl nest in the TMA per year over the life of the Project.

#### *Effect of the Take*

The anticipated level of take is not likely to jeopardize the continued existence of the Mexican spotted owl. Prior to this consultation, no incidental take has been issued within the action area. Further, the Project is not expected to result in the direct mortality of adult nesting owls and only result in take of up to one owl nest; therefore, we do not expect that the combined effects of the anticipated take will have long-term impacts on the recovery or continued existence of the Mexican spotted owl.

#### *7.2 Colorado pikeminnow*

Estimating the number of individuals of these species that would be taken as a result of increased access to the 100-year floodplain and riverine habitats is difficult to quantify for the following reasons: (1) determining whether an individual forwent breeding as a result of recreation-caused disturbance versus natural causes would be extremely difficult to determine; (2) finding a dead or injured listed fish would be difficult, due to the large size of the action area and because carcasses are subject to scavenging; (3) natural fluctuations in river flows and species abundance may mask recreation effects, and (4) effects that reduce fecundity are difficult to quantify.

However, we believe the chances of direct interactions between OHV use and Colorado

pikeminnow are extremely low and not reasonably certain to occur. Thus, we do not anticipate take of Colorado pikeminnow from the Project.

This Project is not likely to jeopardize the continued existence of Colorado River fishes and does not result in destruction or adverse modification of designated critical habitat for Colorado River fishes.

### 7.3 *Plants*

Sections 7(b)(4) and 7(o)(2) of the Act generally do not apply to listed plant species. However, limited protection of listed plants is provided to the extent that the Act prohibits the removal and reduction to possession of federally listed plants or the malicious damage of such plants on areas under Federal jurisdiction, or the destruction of endangered plants on non-Federal areas in violation of State law or regulation or in the course of any violation of a state criminal trespass law.

### **Reporting Requirements**

Upon locating dead fish, wildlife, or plant species, where human activity is suspected as a possible cause, immediate notification must be made to the Office of Law Enforcement in West Valley City, Utah at telephone (435) 303-0490 and our Ecological Services staff at telephone (801) 975-3330. Pertinent information including the date, time, location, and possible cause of injury or mortality of each species shall be recorded and provided to the USFWS. Instructions for proper handling, transport, and disposition of such specimens will be issued by the USFWS's Division of Law Enforcement.

## **8 CONSERVATION RECOMMENDATIONS**

Section 7(a)(1) of the Act directs federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. Recommend the BLM coordinate with us on any future travel projects (including any route improvement projects other than maintenance of existing routes in their current state) within the action area that have the potential to affect listed species and their habitats.
2. Coordinate with other stakeholders, landowners, and partners to conserve and enhance listed species and their habitat.
3. Plan and implement surveys for ESA-listed plant species in areas of where potentially suitable habitat occurs within 300 ft of travel routes, prioritizing areas where the highest levels of recreational use intersect with the most at-risk listed species.

4. If monitoring indicates that disturbance or use is occurring outside the designated OHV open routes within occupied habitat, recommended implement appropriate corrective actions as identified in the Implementation Plan or developed in consultation with the USFWS.

In order for the USFWS to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the USFWS requests notification of the implementation of any conservation recommendations.

## **9 REINITIATION NOTICE**

This concludes formal consultation on the proposed San Rafael Swell Travel Management Plan. As provided in 50 CFR section 402.16, reinitiation of formal consultation "...is required and shall be requested by the Federal agency or the USFWS, where discretionary Federal involvement or control over the action has been retained or is authorized by law" and:

1. If the amount or extent of taking specified in the Incidental Take Statement is exceeded.
2. If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered.
3. If the identified action is subsequently modified in a manner that causes an effect to listed species or critical habitat that was not considered in the biological opinion.
4. If a new species is listed or Critical Habitat is designated that may be affected by the identified action.

To reinitiate Section 7 consultation, the BLM should immediately notify our office by phone or email if any of the four reinitiation clauses are triggered.

Thank you for your coordination in preparing the BA and your interest in conserving Utah's threatened and endangered species. If we can be of further assistance, please contact Lark Willey at [lark\\_willey@fws.gov](mailto:lark_willey@fws.gov) or 801-239-0553.

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